

Water Trades on the Lower River Tyne in the Seventeenth and Eighteenth Centuries

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Abstract

This thesis examines the community of water related tradesmen who worked in Newcastle upon Tyne and along the lower river Tyne during the seventeenth and eighteenth centuries. Much of the published literature on the subject is confined to the study of the keelmen and the coal-carrying keels. The thesis re-examines the history of this community using a number of relatively unexplored sources. These include using the records of All Saints parish to examine the composition and dynamics of the population, re-examining the objective evidence for inward migration, particularly from Scotland and the Borders. A further study includes a detailed examination of probate inventories belonging to merchants and tradesmen working in Newcastle, and other communities along the Tyne, for evidence of working boat and ship ownership. These revealed a network of coal owners, merchants and hostmen controlling the coal trade locally, and a spectrum of water tradesmen, including keelmen and watermen, together with other groups including wherryman and shipwrights. The study revealed an interweaving of the ownership of both ships and river craft, demonstrating the key role of shipwrights, not just as builders of ships and keels, but also as owners of significant quantities of these craft themselves, many of which they rented to hostmen. An examination of Newcastle Port Books showed not only the size of the coal trade, but also the enormous breadth of the non-coal trade into and out of Newcastle, one of the consequences of the growing wealth of Newcastle as a trading centre stimulating the consumption of a wide range of foodstuffs and luxury items. The thesis ends by examining the diary of an apprentice hostman who worked in Newcastle from 1749 to 1756, which highlights many of the changes occurring in Newcastle and the coal trade, and reinforces many of the observations made in the thesis.

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Glossary

<i>Ballast</i>	Dense heavy material carried in ships to maintain stability when not carrying cargo. In this context usually sand or gravel.
<i>Barque</i>	Sailing ship of three or more masts with the fore and main masts square rigged and the mizzen (aft) mast rigged fore and aft.
<i>Brig</i>	Two masted sailing ship square rigged on the fore mast and fore and aft rigged on the main mast.
<i>Can-house</i>	The house where the keelmen met to receive their orders and get paid by their hostman, the hostman also providing ‘cans’ of beer as part of their wages.
<i>Can-woman</i>	A woman employed by a hostman to manage the Can-house.
<i>Carvel</i>	A form of timber boat construction where the planks are placed edge to edge to give a smooth sided hull.
<i>Chalder</i>	An alternative word for Chaldron.
<i>Chalder boat</i>	A description of a small cargo (usually coal) carrying boat with its capacity being described by the number of chaldrons it can carry, i.e. a two or three chalder boat.
<i>Chaldron</i>	A measure of coal, one Newcastle chaldron weighed fifty two and a half hundredweight equivalent to just over two and a half tons. A London chaldron was smaller, being almost half the weight with a ratio to a Newcastle chaldron of 217:136.
<i>Clinker</i>	A form of timber boat construction where the planks of timber overlap one another, giving a characteristic appearance to the hull. Derived from ancient Scandinavian boat-building techniques.
<i>Coal boat</i>	A description of a coal-carrying river-craft which shares many of the characteristics of a keel, and is probably an alternative name for the keel.
<i>Collier</i>	A coal-carrying seagoing ship.
<i>Fathom</i>	A measure of the depth of water, being equivalent to six imperial feet.

<i>Fittage</i>	A term used to describe the process of arranging with the master of a collier to obtain a ship-load of coal, have it loaded, often by keelmen from a keel, and manage the payment and customs clearance of the ship
<i>Fitter</i>	The person who arranges the fittage of a ship with coal.
<i>Fore and aft</i>	An arrangement of sails where the sails are rigged along the centre line of a boat with one sail in front of the mast and another behind
<i>Gaff sail</i>	A sail rigged aft of the mast which has a timber boom at its base and an upwards tilted timber gaff along the top.
<i>Harbour Bar</i>	A shallow area of sand or gravel which occurs at the mouth of a river or entrance to a harbour, sometimes referred to as a Barr.
<i>Hostman</i>	A member of the Company of Hostmen of Newcastle upon Tyne who acted as agents for the sale of coal and grindstones.
<i>Key</i>	Another form of Quay.
<i>Keel</i>	A timber built, carvel-constructed coal-carrying river craft with a capacity of eight Newcastle Chaldrons, (twenty one and a half tons) of coal. Usually propelled with a large oar and steered with another, and often carrying a square sail on a mast which could be lowered to pass under a bridge.
<i>Keelman</i>	A water tradesman who worked on the keels.
<i>Keel-bullies</i>	Another name for keelmen, or those who worked on the keels.
<i>Keel-deeters</i>	Women, usually wives and daughters of keelmen who swept the keels clear of coal residues, keeping them for their own use.
<i>Keelroom</i>	A place on the river bank where a keel could be moored. A rental fee of around 20s per year was charged by the Common Council of Newcastle for the use of each keelroom.
<i>Lighter</i>	A general term for a cargo-carrying river craft.
<i>Master Mariner</i>	The captain of a sea going ship
<i>Mizzen Mast</i>	The rear most mast in a ship or boat with more than one mast.
<i>Neap tides</i>	The tides with the smallest range between high and low tides, usually occurring mid way between spring high tides.
<i>Norway boat</i>	A type of clinker built rowing boat, similar in design to Scandinavian craft.

<i>Pann Keels</i>	A type of keel that was used to ferry poor quality coal to the salt pans, and to carry salt and other cargo.
<i>Salt Panns</i>	Salt-making works where water was evaporated from sea water, often using coal, to obtain salt.
<i>Sculler</i>	An open river craft propelled by a single oar over the stern, often used as a ferry.
<i>Shipwright</i>	A ship or boat builder or ship repairer.
<i>Skipper</i>	The person who was in command of, and steered a keel.
<i>Snow rig</i>	Three masted sailing ship with square sails on the fore and main mast and a loose footed gaff mizzen sail set from a small mizzen mast
<i>Spring tides</i>	The monthly high tides when the tidal range between high and low tides is at its greatest.
<i>Sprit sail</i>	A rectangular sail usually mounted on a piece of timber projecting over the bow of a boat called a bowsprit.
<i>Square rigged</i>	A sailing ship rigged with transverse square sails hanging from timber beams called yards attached to the mast.
<i>Staith</i>	A Timber or stone structure built on the shore of a river with relatively deep water alongside to allow the mooring and loading of ships or boats.
<i>Staithman</i>	A person of some significance in the coal trade who managed the use of the coal staiths and controlled the loading of coal and unloading of ballast.
<i>Staithroom</i>	The piece of river bank where the Common Council of Newcastle gave permission for the building of a staith, often associated with a way-leave for a waggon way, charging annual rent of around £10 for the staith and its associated keelrooms.
<i>Stay sail</i>	A triangular sail rigged in front of a mast.
<i>Swape</i>	A term used to describe the large oar used to propel a keel.
<i>Top sail</i>	A sail rigged at the top of a mast, which may be a square sail or a fore and aft sail above a gaff.
<i>Trow</i>	A sailing barge that worked on the river Severn, with either a square sail or fore and aft rig.
<i>Vend</i>	The amount of coal sold by an individual hostman or group over a period of time, chaldrons per week, month or year.

<i>Waggon-way</i>	The timber and later iron track ways that carried the coal carrying waggons from the collieries to the river-side coal staiths.
<i>Waterman</i>	A water tradesman, the term often being interchangeable with the terms keelman and wherryman.
<i>Way-leave</i>	Permit to build a coal-carrying waggon-way across private land, for which the land owner charged a rent.
<i>Wharf</i>	An alternative term for a quayside or staith
<i>Wherry</i>	A cargo-carrying river craft which did not carry coal, and was often used for carrying people. Usually of timber clinker construction with a fore and aft rig.
<i>Wherryman</i>	A waterman who worked on a wherry.

Sources: For the words and terms used in relation to the keels and coal industry during the eighteenth century: John Brand, *The History and Antiquities of the Town of Newcastle upon Tyne*, (London, 1789). For other nautical, boating and shipping terms: Osler A., Barrow T. *Tall Ships Two Rivers*, (Newcastle upon Tyne, Keepdate Publishing Ltd. 1993); M. Stammers, *Sailing Barges of the British Isles*, (Stroud, The History Press 2008).

Introduction

In 1724 Daniel Defoe, when describing his tour through Great Britain, wrote of his first impressions when approaching Newcastle from County Durham:

From hence the road to Newcastle gives a View of the inexhausted Store of Coal and Coal Pits, from whence not London only, but all of the South Part of England is continually supplied: ...Newcastle is a spacious, extended, infinitely populous Place; 'tis seated upon the River Tyne, which here is a noble, large and deep River, and Ships of any reasonable Burthen may come up safely to the very Town. ... the wall of the Town runs parallel... with the River leaving a spacious Piece of Ground before it between the Water and the Wall, that Ground, being well Wharf'd up, and fac'd with Free-Stone, makes the longest and largest Key for landing and lading Goods that is to be seen in England.¹

This thesis explores the history of the water trades of Newcastle and the River Tyne during the seventeenth and eighteenth centuries, including the keels and the people who manned them. The way in which trade developed in any community and with any commodity was, of necessity, a reflection of the geography and physical environment prevailing at the time. Newcastle was the commercial centre of the coal trade and was positioned on the lower river Tyne about eight miles from the sea. It was at the centre of those mining communities which surrounded this part of the river, which was that lower section affected by the tides extending from the mouth of the river in the East to the upper limits of the tidal Tyne between Newburn and Wylam in the West. The tidal nature of the river with its consequent daily variations in depth made it difficult for heavily laden ships to move freely at all states of the tide. As a result a process evolved of moving heavy and bulky cargoes such as coal from the staiths on the river bank to waiting ships anchored closer to the mouth of the river and the sea. Traditional boats called keels were used move the coal, and were operated by a particular group of tradesmen known as keelmen. These water tradesmen were a key group of people in the community, conveying freight and people to the waiting collier brigs, close to the mouth of the river that would carry the coal, either to other parts of England and particularly London, or to continental Europe. The nature of the river with its variable depth, winding course and the presence of a low bridge in Newcastle, meant that the key to its success in providing vast quantities of coal for London and other towns was this ability to transport coal in boats from the river bank to the waiting

¹Daniel Defoe, *A Tour Thro' the Whole Island of Great Britain*, (London: 1726, Frank Cass & Co., 1968), 659.

colliers. Consequently, those who operated these boats and made the transport system work were essential to the success of the trade. It cannot be stressed enough that these river trades were largely responsible for sustaining the extraordinary growth in the North East coal trade during the seventeenth and eighteenth centuries. This burgeoning coal trade, mainly with the rapidly developing metropolis of London made Newcastle and the growing coal fields surrounding the lower river Tyne a uniquely important part of England in this period.²

As has been indicated, the most prominent group of water tradesmen were those who operated the coal-carrying keels, the keelmen. The keelmen were identified as a particular fraternity in a decree of the Star Chamber in 1516.³ It was said that the keels themselves were owned by the coal owners, and the sale and transport of the coal managed by the hostmen and subsequently the fitters. The keelmen were an independent minded group who were not averse to taking industrial action, indeed there were a large number of keelmen's strikes between 1671 and 1794, many of which were a reflection of the changing nature of the coal trade and their relationship with their employers.⁴ As so often in growing towns during the seventeenth and eighteenth centuries, many workers were immigrants from surrounding districts, and in the case of Newcastle this was said to include many from Scotland.⁵ By virtue of the terms of the bond under which the keelmen were employed they found it very difficult to obtain the rights associated with settlement in their working communities. This apparently led to serious poverty among the keelmen and their families, especially at times when the coal trade

²Henry Bourne, *The History of Newcastle upon Tyne*, (Newcastle upon Tyne: John White, 1736); J. Brand, *The History and Antiquities of the Town of Newcastle upon Tyne*, (London: 1789); J. Baillie, *An Impartial History of the Town and County of Newcastle upon Tyne and its Vicinity*, (Newcastle upon Tyne: Vint and Anderson, 1801); E. Mackenzie, *Descriptive and Historical Account of the Town and County of Newcastle upon Tyne*, (Newcastle upon Tyne: Mackenzie and Dent, 1827); R.J. Charleton, *Newcastle Town*, (London: Walter Scott, 1885); J.U. Nef, *The Rise of the British Coal Industry, Vol.2*, (London: George Routledge, 1932); S. Middlebrook, *Newcastle upon Tyne, Its Growth and Achievement*, (Newcastle upon Tyne: Newcastle Journal, 1950); J. Hatcher, *The History of the British Coal Industry, Vol 1, Before 1700: Towards the Age of Coal*, (Oxford: Clarendon Press, 1993).

³ Brand, *History and Antiquities*, 361.

⁴ Charleton, *Newcastle Town*, 325; Nef, *Rise of the British Coal Industry, Vol. 2*, 178-179; Middlebrook, *Newcastle upon Tyne*, 123; Hatcher, *History of the British Coal Industry*, 468; J.M. Fewster, 'The Keelmen of Tyneside in the Eighteenth Century', *Durham University Journal* 50 (1957), 24-33; J.M. Fewster, 'The Last Struggles of the Tyneside Keelmen', *Durham University Journal*, 55 (1963), 6; D.J. Rowe, 'The Keelmen of Tyneside', *History Today*, 19 (1969), 251. Mutinies by the keelmen about their conditions of work and rates of pay occurred on a regular basis with records of disputes in 1641, 1654, 1660, 1676, 1708, 1710, 1719, 1738, 1740, 1744, 1750, 1771, and 1794. Some of these, particularly in the eighteenth century, were more general strikes joining other trades such as pitmen in strikes over hunger due to shortages of corn.

⁵ R.A. Houston, *The Population History of Britain and Ireland 1500-1750*, (Basingstoke: Macmillan Education Ltd., 1992), 58; Richard Welford, *History of Newcastle and Gateshead, Volume III*, (London: Walter Scott, 1887), 348.

was in decline, and particularly during the winters when the coal trade was reduced by inclement weather. It was an example of the drive and independence within the community that at the end of the seventeenth century, at the instigation of their employers, the hostmen, attempted to set up their own charity for the support of their poor, and in 1701 the Keelmen's Hospital was built in Newcastle.⁶

Most of the historical literature describes the work of the coal-carrying keelmen, but does not indicate whether they or other types of watermen carried other significant exports, or the large quantities of incoming trade, although Hatcher implies that they did, but provides little supporting evidence.⁷ It remains unclear whether the coal-owners and fitters were involved in the trade of other commodities, and also whether their keels were used to provide intermediate transport for any commodities other than coal. There is a reference in the Orders and Minutes of the Company of Hostmen to pann keels or pann boats which were not measured in the same way as the keels. Pann keels were probably used to carry pan coals which were small coals destined for local industrial use, or salt from the salt pans, most of which were close to the mouth of the river at North and South Shields. On occasion these pann keels were used illicitly for transporting coal to colliers as a way of evading coal duties. The Company attempted to impose significant penalties upon those who misused these boats for carrying coal destined for shipment.⁸

Despite its crucial importance, the history, size and nature of the whole community of water trades on the Tyne has been largely under-explored. This is surprising considering their key economic role, and still more so given their known political activity and identity. It is apparent from the available documents that there were a number of different cargo-carrying river craft with references to lighters and wherrys in addition to keels, indeed Brand notes that there was an attempt to create a fraternity of watermen and wherryman, distinct and separate from the keelmen, in 1656. The detail of this aspect of trade has been obscured in the literature by the

⁶ F.W. Dendy, 'Extracts from the Records of the Company of Hostmen of Newcastle upon Tyne', *Surtees Society*, 105 (1901), 205-6; Fewster, 'The Keelmen of Tyneside in the Eighteenth Century', Part 1, 28n; It would appear that because of various holidays allowed, the period of bonded employment was less than a year, and hence not eligible for settlement, however some keelmen, especially natives of Newcastle, were entitled to settlement on grounds other than by hiring or service.

⁷ Hatcher, *The History of the British Coal Industry*, 467.

⁸ Dendy, 'Company of Hostmen', 93, 93n.

overwhelming quantity of information relating to the coal trade and the politics surrounding it.⁹

There has been a wide range of material published, which includes elements of the history of the coal trade on the River Tyne containing references to keels, keelmen and hostmen, dating back to *Chorographia* in the mid-seventeenth century.¹⁰ Most of the earlier publications were a series of broad-based accounts of the history of Newcastle and the surrounding area appearing in the latter half of the eighteenth century and at intervals through the nineteenth century.¹¹ During the later part of the nineteenth century and into the twentieth century study of the history of the trades union movement was in vogue, and the keelmen, with their history of strike action, were studied frequently as proto-trades unionists.¹² Later in the twentieth century a number of very scholarly studies of the evolution of the British coal industry were published.¹³ Each of these included accounts of the contribution of hostmen, keelmen and keels on the River Tyne to the development of the coal industry over several centuries up to 1850, when they disappeared as a meaningful part of the coal trade. Throughout all of these publications, from the earliest to the latest, the primary sources of information about the trade on the Tyne were very limited. Many of the more recent texts simply refer to the earlier texts as their source. However some of these early sources such as Brand are particularly well referenced.¹⁴ The main source for all of Brand's references to the water trades, keels, hostmen and keelmen were the records of the Company of Hostmen. There are one or two references to minutes of the Common Council of Newcastle upon Tyne, which often concerned disputes involving hostmen, together with references to petitions made to parliament over disputes about the management of the keelmen's hospital charity. There were a number of cases of disputes referred by the hostmen to magistrates for settlement. All of the other authors have used the same sources, either quoted from earlier publications, the published extracts of the records of the Company

⁹ Brand, *History and Antiquities*, 361.

¹⁰ Grey, *Chorographia, or a Survey of Newcastle upon Tyne*, (Newcastle upon Tyne: 1649).

¹¹ Bourne, *History of Newcastle upon Tyne*; Brand, *The History and Antiquities*; Mackenzie, *Descriptive and Historical Account*; J. Guthrie, *The River Tyne, Its History and Resources*, (Newcastle upon Tyne: Andrew Reid, 1880); Charleton, *Newcastle Town*; Welford, *History of Newcastle and Gateshead, Vol. III*.

¹² S. Middlebrook *Newcastle upon Tyne*; Fewster, 'The Keelmen of the Eighteenth Century'; D.J. Rowe, 'The Decline of the Keelmen in the Nineteenth Century', *Northern History*, 4 (1969), 109-31.

¹³ Nef, *The Rise of the British Coal Industry, Volumes 1&2*; T.S. Ashton & J. Sykes, *The Coal Industry in the Eighteenth Century*. (Manchester: Manchester University Press 1929); W.S. Mitcalfe, 'The History of the Keelmen and Their Strike in 1822', *Archaeologia Aeliana* 14 (1937), 1-17; M.W. Flinn, *The History of the British Coal Industry, 1700-1839: The Industrial Revolution*. (Oxford: Oxford University Press, 1984); Hatcher, *The History of the British Coal Industry*.

¹⁴ Brand, *History and Antiquities*.

of Hostmen published by Dendy in 1901,¹⁵ or directly from the records themselves, currently held in Tyne & Wear Archives and Museums (TWAM).

During the seventeenth and eighteenth centuries the hostmen and coal owners held a monopoly of power in Newcastle. Not only were they controlling the coal trade, but they also formed a majority of the Aldermen and Common Council. In addition, most of the Magistrates were members of the Hostmen's Company. The thread running through all of these historical bodies is that they were all influenced by one interest group in the town, the Company of Hostmen. A consistent feature of the history of Newcastle has been the power of the hostmen, magistrates and council over the running of the town and its trade, their strategy being based entirely on self interest and profit rather than the benefit of the wider community. This philosophy extended beyond the coal trade and the hostmen to other guilds, notably the monopoly imposed by the Company of Shipwrights as exemplified by the papers relating to Thomas Cliffe and Ralph Gardner who had a prolonged battle with the Burgesses of Newcastle between 1650 and 1658.¹⁶ The effect of this is that, with their history of a consistently self-interested approach to economic life, the records of the Company of Hostmen and any other organisation with which they were involved, including the Common Council and the Magistrates, were likely to be significantly lacking in objectivity and present events with a degree of 'spin' which presented events to their own advantage, and may not have been the most accurate basis upon which to write a history of Newcastle and the trade of the River Tyne. This thesis will test the hypothesis that, notwithstanding the dominance of coal, the range of trading activities on the river Tyne extended far beyond the coal industry and into a wide range of other imports and exports that supported the flourishing communities that developed in Newcastle and along the river in the seventeenth and eighteenth centuries, and was reflected in the nature and composition of the water trades community that supported it.

The literature concerning communities of water trades people living along rivers in England during the seventeenth and eighteenth centuries is not extensive. One of the most notable contributions is *Fisher Row* by Mary Prior in which she examines the communities of fishermen, bargemen and canal boatmen in Oxford between 1500 and

¹⁵ Dendy, 'Company of Hostmen'.

¹⁶ R.H. Howell, *Monopoly on the Tyne, 1650-58: Papers relating to Ralph Gardner*. (Newcastle upon Tyne, Society of Antiquaries 1978); Papers Relating to Ralph Gardner, TWAM.

1900.¹⁷ The Thames bargemen are the group that bear the closest similarity in work and lifestyle to the most prominent water tradesmen on the Tyne, the keelmen, in that their main function was the transport of heavy loads up and down the Thames in barges, which carried about 70 tons of cargo. However, the upper river Thames near Oxford was a very different environment from the tidal Tyne. By the eighteenth century the Thames was a navigable waterway through to London, which for the majority of its course was not tidal and had relatively few obstructions to water borne traffic. There also appear to be differences in the community lifestyle. Although it was on the banks of the canal in the centre of Oxford, Fisher Row appeared to provide the opportunity for stable family groups of bargemasters to establish dynasties lasting many years, with new recruits to the trade often coming in apprenticeships to young men from families involved in other local trades. In addition many of the bargemasters were people of some substance in the town of Oxford, some even becoming freemen. In contrast the water trades community along the Tyne, being part of a growing industrial community, was sustained partly by immigration. Throughout the period under study the keelmen of the Tyne were regarded as relatively socially inferior, were actively prevented from forming their own Company of Keelmen and were certainly never in the position to become freemen of Newcastle.¹⁸ The extent to which trade-related dynasties developed in a manner similar to Fisher Row is unclear; certainly no similar family trees have been uncovered for members of the water trades on the Tyne.

Another study of riverside communities based on the Thames is the thesis by David Blomfield.¹⁹ He explores the community of boatmen on the upper tidal Thames between Teddington and Chiswick. Once again, in a manner similar to that described by Mary Prior in *Fisher Row*, the watermen on the lower Thames became tradesmen of some significance with the support of the London Company of Watermen and Lightermen to which most were apprenticed in the early stages of their career, subsequently becoming members. The records of this company were one of the main primary sources for Blomfield's thesis. What was striking about these water tradesmen was that when their business circumstances changed with the introduction of steam tugs and larger towed barges to replace their manually-operated barges and boats, they were

¹⁷ Mary Prior, *Fisher Row: Fishermen, Bargemen, and Canal Boatmen in Oxford, 1500-1900*, (Oxford: Clarendon Press, 1982).

¹⁸ Brand, *History of Newcastle*, 261, 361.

¹⁹ David Blomfield, 'Tradesmen of the Thames: Success and Failure among the Watermen and Lightermen Families of the Upper Tidal Thames 1750-1901', Unpublished PhD Thesis, Kingston University (2006).

able to alter the nature of their trade. The majority continued in a related aspect of their water trade and on balance were in a stronger position at the end of the nineteenth century than they had been in 1750. This contrasts starkly with the Tyneside keelmen, whose role in the community as a whole was perceived as much more menial than that of their counterparts on the Thames, and whose trade was effectively abolished by the introduction of steam traction in the mid-nineteenth century.²⁰ In addition the relative lack of a significant number of surviving records about individual water tradesmen, equivalent to those of the London Company of Watermen and Lightermen, makes tracing the detailed history of individual Tyne keelmen and watermen very difficult, although not impossible. As will be seen, the records that do still exist allow some light to be thrown upon those in both the upper and lower strata of those elements of society involved in the river-related trades.

Fiona Wood's thesis, 'Inland Transport and Distribution in the Hinterland of Kings Lynn, 1760-1840', cited by Blomfield, examines the community of boatmen living and working around Kings Lynn. Whereas much of her thesis concentrates on the local merchants, it appears that there were some similarities in the relationships between merchants and boatmen in Kings Lynn and those which existed on the Tyne. Like the Tyne keelmen, the boatmen were paid for their work by the voyage, apparently supplemented by cheap beer. However, unlike the keelmen on the Tyne, the Kings Lynn boatmen appeared to be regarded as responsible members of the community, often owning the boats they used and some even became wealthy land owners with wills indicating property amounting to £600.²¹

One of the major working waterways in England was the River Severn. Barrie Trinder published a history of the upper Severn navigation in 2005, *Barges and Bargemen, A Social History of the Upper Severn Navigation 1660-1690*. He describes in some detail the water trades community, in particular around Bridgenorth where there was a substantial community associated with the river trade for whom a large amount of information survives, including probate inventories. Trinder describes a community consisting of trading boat owners who owned the main form of river transport, barges,

²⁰ Fewster, 'The Last Struggles of the Tyneside Keelmen', 5-15; Rowe, 'The Decline of the Tyneside Keelmen', 111-31.

²¹ Blomfield, 'Tradesmen of the Thames, 37, quoting: Fiona Jean Wood, 'Inland Transport and Distribution in the hinterland of Kings Lynn, 1760-1840'. Unpublished PhD Thesis, Cambridge University 1992).

many of which were powered by square sails and were known as Trows.²² These boat owners were people of some wealth and status in the community often owning more than one barge. There were also some single barge owners who owned and worked their own barges who were much less wealthy, with probate records showing very modest estates and they often held leasehold tenements. It would appear that many of the river workers, who included those crewing the trows and those servicing them at the staiths, were poor and some were active in food riots in 1693.²³ It is clear that until the advent of the railways in the nineteenth century the river was integral to the survival of the community in Bridgenorth, being a main route for transport of both people and cargo to and from the larger towns close to the Severn estuary. This aspect bears many similarities to Newcastle and its dependence on the Tyne for transport and communications, and it is apparent that a complex trading and business network had developed in Bridgenorth involving a wider social and economic spectrum, than was apparent in the studies of Oxford and the upper tidal Thames.

Two secondary sources are of particular value in any study of Newcastle during the early modern period. Firstly David Levine and Keith Wrightson in their seminal work *The Making of an Industrial Society, Whickham 1560-1765* provide a detailed insight into the development of an industrial community in North East England which, together with their earlier related work, *Death in Whickham*, have enormous relevance to the present study of the water trades on the lower Tyne.²⁴ This work provides a perceptive analysis of the changes which occurred as the industrial community developed in Whickham which is one of the parishes included in this study, and are complementary to the examination of the development of the water trades described in this thesis. Similarly the important works of Joyce Ellis elaborating upon the social and industrial development of Newcastle during the seventeenth and eighteenth centuries

²² Michael Stammers, *Sailing Barges of the British Isles*, (The History Press: Stroud, 2008), 109-21. The Severn Trow appeared in several forms, a sailing barge with a square sail on a single mast that worked on the upper reaches of the Severn, and a more sophisticated version, more like a sailing ship with more than one mast and several sails that worked in the Severn estuary.

²³ Barrie Trinder, *Barges and Bargemen, A Social History of the Upper Severn Navigation 1660-1900*. (Chichester: Phillimore 2005), 51.

²⁴ David Levine and Keith Wrightson, *The Making of an Industrial Society, Whickham 1560-1765*, (Oxford: Clarendon Press 1991); Keith Wrightson and David Levine, 'Death in Whickham', in *Famine, disease and the social order in early modern society*, ed. John Walter and Roger Schofield (Cambridge: Cambridge University Press 1989), 129-65.

form a substantial basis of literature which underpins the research presented in the following pages.²⁵

0.1 Documentary Sources.

This thesis will reappraise the history of the water-related trades on the River Tyne and around Newcastle utilising a number of contemporary sources, many of which have not hitherto been extensively used. In addition to the archival records available in The Tyne Wear Archives and Museums (TWAM) and the Newcastle City Libraries, Local Studies Section (NCL/LS), six main sources will be examined more closely:

0.1.1 *All Saints Parish Registers.*²⁶

These record details of baptisms, marriages and burials in the parish of All Saints, Newcastle from 1557. They have the twin benefits of covering the district of Newcastle where most of the water trades people lived and also, unusually for Newcastle parish registers, provided details of occupation. Using parish registers for detailed studies of absolute population numbers is complicated by the increase in under-registration, particularly of burials during the second half of the eighteenth century, due to the rising incidence of religious dissent in the population and the use of the extra-parochial Ballast Hills burial ground.²⁷ However, using the parish records in a qualitative manner, as an indicator of the presence of certain occupations, and also looking at patterns of surnames provides very helpful information about aspects of occupation and population dynamics in this large riverside parish.

²⁵ Joyce Ellis, 'The Decline and Fall of the Tyneside Salt Industry 1660-1760, A Re-examination', *Economic History Review* 33 (1980), 45-58; J. Ellis, *A Study of the Business Fortunes of William Cotesworth, c1668-1726*, (New York: Arno Press, 1981); J. Ellis, 'A Bold Adventurer: The Business Fortunes of William Cotesworth, c1668-1726', *Northern History*, 17 (1981), 117-32; J. Ellis, 'A Dynamic Society: Social Relations in Newcastle upon Tyne 1660-1760', In *The Transformation of English Provincial Towns 1600-1800*, ed. P. Clark, (London: Hutchinson & Co., 1984), 190-227; J. Ellis, 'Cartels in the Coal Industry on Tyneside', *Northern History* 34 (1998), 134-48; J. Ellis, 'The "Black Indies", The Economic Development of Newcastle 1700-1840', In *Newcastle upon Tyne, a Modern History*, ed. Robert Colls, Bill Lancaster, (Chichester: Phillimore, 2001), 1-26; J. Ellis *The Georgian Town 1680-1840* (London: Palgrave, 2001).

²⁶ Newcastle City Libraries, Local History Section L929.3/N536. All Newcastle Parish registers are available in transcription from the sixteenth century until the late nineteenth century, TWAM, Parish Records (microfilm).

²⁷ S. Basten, *Registration Practices in Anglican Parishes and Dissenting Groups in Northern England, 1770-1840*. (Unpublished PhD Thesis, Cambridge University, 2008); Michael Drake, 'Introduction' in *Population Studies from Parish Registers*, ed. Michael Drake (Matlock: Local Population Studies, 1982), v-xxxvi; E.A. Wrigley, R.S. Schofield, *The Population History of England 1541-1871, a Reconstruction*, (London: Arnold, 1981); M. Barke 'Pre-civil registration population of Newcastle: Estimating vital events', *Northumbria University, Division of Geography and Environmental Management, Occasional Papers*, 37 (2000), 7-11.

0.1.2 *Durham Probate Inventories.*²⁸

Probate inventories were a list of movable goods prepared after someone died which the executors of an estate were required to exhibit at the time of probate.²⁹ Inventories for the Newcastle parishes and the other parishes surrounding the lower River Tyne were originally administered by the consistory court of the Church of England Diocese of Durham, and are now kept in Durham University Library (DUL) in a collection of probate records. Those records relating to the period before 1858 are kept under the general designation DPRI/1. Fewer inventories exist after 1720 but there are

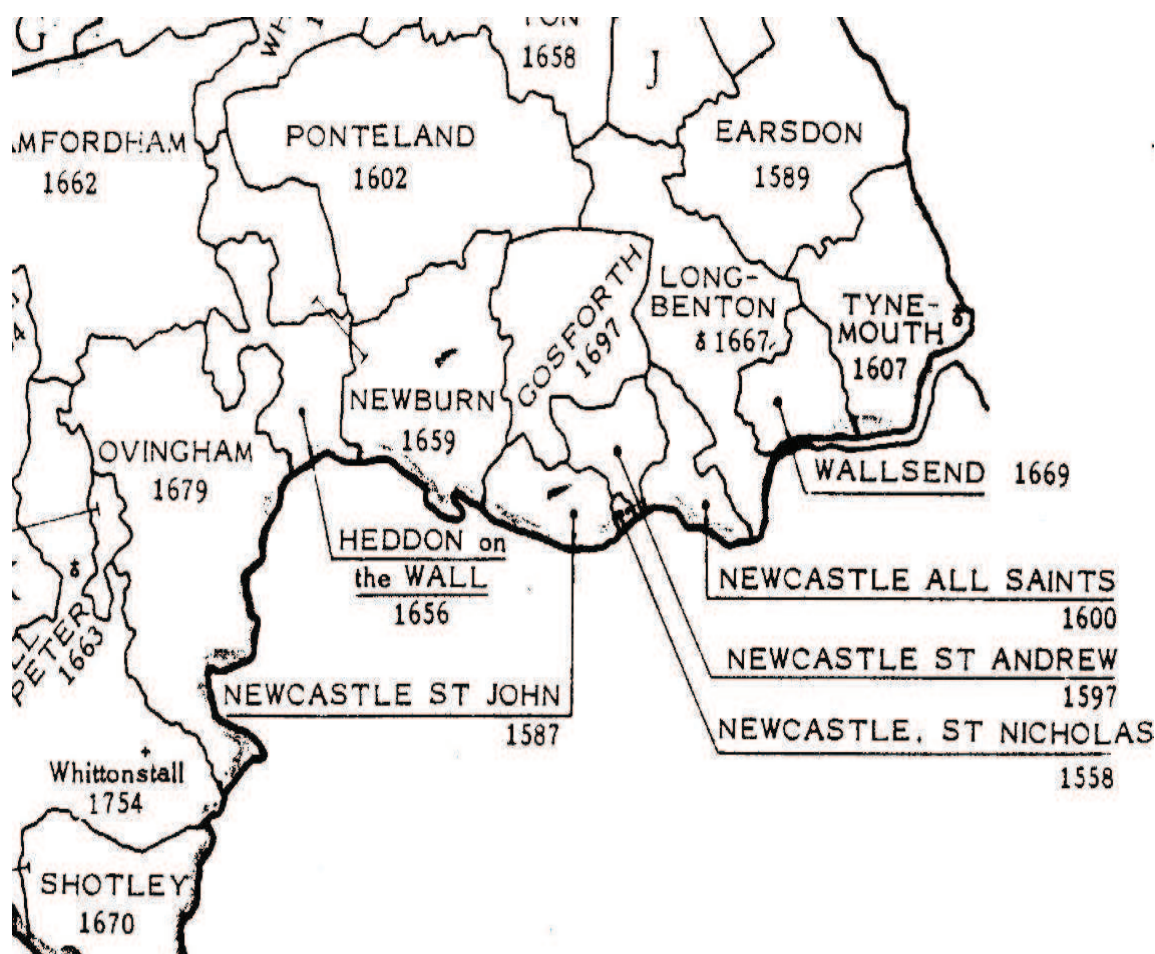


Figure 0.1 Parish Boundaries North of the Tyne.³⁰

²⁸ Durham Probate Inventories, University of Durham Libraries. DPRI/1.

²⁹ Tom Arkell, 'Interpreting Probate Inventories', in *When Death us do Part*, ed. T. Arkell, N. Evans and N. Goose, (Oxford: Leopards Head Press, 2000), 72-102; L. Wetherill, *Consumer Behaviour and Material Culture in Britain, 1660-1760*. (London: Routledge, 1996), 2.

³⁰ C.R. Humphery-Smith ed. *The Phillimore Atlas and Index of Parish Registers*, (Chichester, Phillimore 1984), 11, 26. The maps at Fig. 0.1 and Fig. 0.2 are derived from the Northumberland and Durham maps of parish boundaries contained in the Phillimore Atlas, the dates representing the times when the respective parish register were first started.

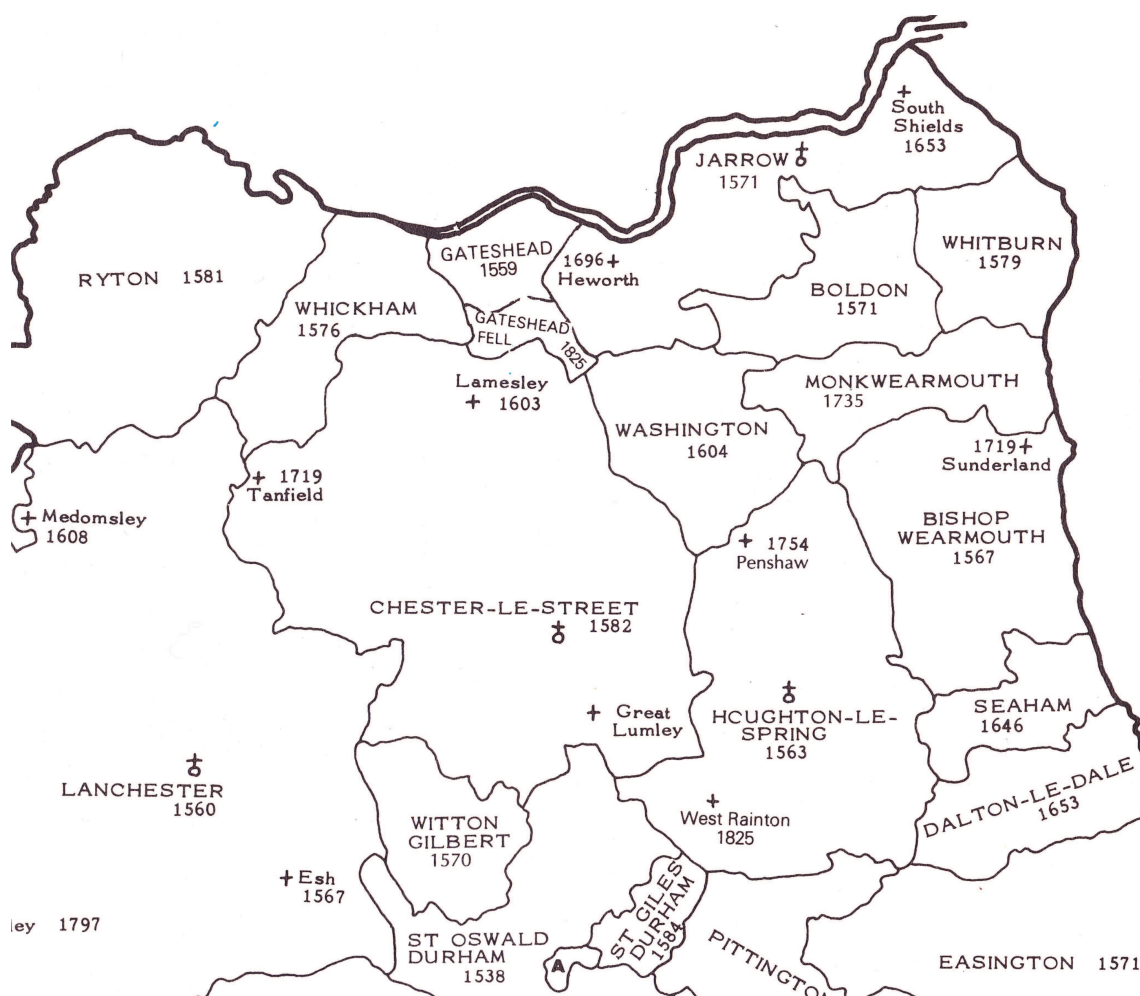


Figure 0.2 Parishes Boundaries South of the Tyne.

still a large number preserved in the collection for the seventeenth and eighteenth centuries up to 1720. Seven hundred and ninety six probate inventories, in original manuscript form, have been examined from parishes in Newcastle and along the lower River Tyne for evidence of boat and ship ownership throughout the period of availability (Figures 0.1 and 0.2.). Although the legibility of some of these documents is limited, there is sufficient material to give a very clear idea of the spectrum of property - and particularly ship and boat ownership - during the period under study.

0.1.3 Newcastle Port Books.³¹

Throughout the seventeenth and eighteenth centuries the excise men at customs houses at all major ports kept records of the nature of each shipment arriving and leaving a port, together with details of the name of the ship, the ship's master and its

³¹ Newcastle Port Books (The National Archive (TNA)/E180)

origin or destination. This information was kept in a series of Port Books.³² Many of these books are preserved in The National Archives (TNA) at Kew. Unfortunately many of them are all, or in part, in a very poor state of preservation making their analysis at times very challenging. This thesis presents one of the first detailed analyses of the contents of surviving Newcastle Port Books for years around 1700 and also in the mid-eighteenth century in 1756, giving a picture of the large variety of imports and exports in addition to coal together with the wide range of coastal and overseas ports visited.

0.1.4 *Newcastle Chamberlains' Accounts of Payments and Disbursements.*³³

These account books are preserved in TWAM for all of the seventeenth and eighteenth centuries. They are day-to-day accounts of payments made to and by the Corporation from a variety of sources, including payment of rents of land and property and fees related to guild apprenticeships and awards of guild freedoms. Amongst these payments are included ship-by-ship payments of local duties for coal and salt exports, and ballast dumping fees. They are complementary to the Port Books as a source of information about day-to-day shipping movements, allowing a distinction to be made between ships arriving in ballast and those arriving with imported cargo. They are particularly interesting as they provide, together with the Common Council minutes, one of the few sources of information about the amount of ballast that was brought into the Tyne by visiting ships and how its disposal was managed.

0.1.5 *Newcastle Common Council Minutes.*³⁴

The Newcastle Common Council Minutes are records of the day-to-day meetings of the Common Council, together with details of the various decisions made. They provide a valuable supplementary source of information about the various issues which were of importance to the town at the time. They give information about the town and its dealings with the various users of the river including the management of the keels and the coal trade, and also provide a good deal of supplementary information about the management of ships' ballast, and the people who handled it together with the ballast shores and hills where it was deposited.

³² Elizabeth E. Hoon, *The Organisation of the English Customs System*, (1938, repr. Newton Abbot: Davis & Charles, 1968), 5-25, 36-8; R.C. Jarvis 'The Appointment of Ports', *Economic History Review*, 2nd Ser. 9 (1958), 463.

³³ Newcastle Chamberlain's Accounts, TWAM MD.NC-FN-1-1-65 to 108.

³⁴ Newcastle Common Council Minutes, TWAM 589. 4-16.

0.1.6 *The Diary of Ralph Jackson, apprentice hostman – a case study.*

Ralph Jackson (1736-1790) became bound to William Jefferson as an apprentice hostman in 1749 at the age of 13, and served for seven years until completing his apprenticeship in 1756.³⁵ This voluminous collection of diaries was kept from 1749 when he began his apprenticeship until close to his death in 1790. These diaries seem to have been almost unknown to modern historians and are not mentioned even in recent studies of the period. The diaries provide a detailed insight into the life of an apprentice living among the middling classes of Newcastle in the mid-eighteenth century. In addition they provide an illuminating account of the details of the work, and the circumstances under which it was undertaken by a hostman in that period. This was particularly true in his final year as an apprentice in 1756. Among the entries are detailed references to his day-to-day work as apprentice to Jefferson, which include details of their dealings with individual ships' captains and their ships. The details are sufficiently clear to allow these individual ships, masters and shipments to be traced to the entries in both the relevant port books and the Chamberlains' Accounts.

0.2 Structure of the Thesis.

The thesis is divided into five chapters. Chapter One will examine the historiography of Newcastle and the River Tyne with particular reference to the local economy and its association with the coal industry. In addition the chapter will explore the importance of the river as the crucial link between Newcastle and its mineral rich hinterland and the sea, forming the route by which the coal was exported to other parts of England and abroad, and the impact that this association had upon the working communities along the riverside. It will examine contemporary maps of the river and explore the various perceived and real constraints to navigation from the mouth of the river up to the town of Newcastle, in the light of the types of ships and boats that were available and cargo that required transporting. In particular it will reflect upon the reasons underlying the evolution of the keel as a form of intermediate river transport between the coal staiths and the collier brigs waiting at the river mouth.

Chapter Two will examine the development of the population of Newcastle and its hinterland and how it was affected by the growing coal industry during the seventeenth and eighteenth centuries. Being an industrial town, much of its growth was

³⁵ Teeside Archives, Middlesbrough, Journals of Ralph Jackson, U/WJ/1-6

by inward migration from surrounding rural populations. The chapter will examine the evidence for this migration particularly in relation to the population of water trades community. Using the All Saints parish records as a case study, since evidence indicated that it was the main centre of the water trades community in Newcastle, the characteristics of the community will be examined over the period under review. In addition evidence from the records of coal exports from the Tyne will be used to estimate the number of keels and keelmen who might have been expected to be working in the water trades community. The case study will look at how the community changed over the years, including changes in trade nomenclature, and also explore as far as possible the evidence available to assess the changing size of the population and its dynamics. In addition the extent to which there was immigration into the parish and its source will be examined.

Chapter Three will use an analysis of data from Durham Probate Inventories to explore the patterns of ownership of both working boats on the river and also shipping that used the port. These patterns of ownership show how boat and ship ownership varied among those of different occupations, and was often an important determinant of an individual's overall wealth. Fortunately the information was sufficiently detailed in some instances to enable case studies of boat and ship owners at different socio-economic levels in the community to be constructed. In addition the evidence of ownership of different elements of the shipping and river trades enabled an assessment to be made of the different business networks operating around the river at the time.

Chapter Four provides an analysis of the data obtained from a study of the Newcastle Port Books, These very extensive volumes highlight the very large number of shipments of coal and a variety of other commodities that occurred out of the river Tyne each year, balanced by a smaller, but highly varied import trade, mainly of foodstuffs and other domestic consumables from both elsewhere in England and also abroad. Even more notable is the wide range of coastal and overseas ports which were visited by ships going to and from the Tyne.

Chapter Five presents a case study of the Diary of Ralph Jackson in the context of the information yielded by the previous chapters to provide a picture of water trades on the Tyne in the seventeenth and eighteenth centuries, and their associated business networks. This will show that the scope of the water trades on the Tyne was far wider

than previously suspected, reflecting the consumption of a wide range of commodities by the local community. In addition the ability to link events, personalities and ships described in the diaries with evidence from other independent primary sources emphasises the importance of the diaries as an authoritative source of contemporary information about Newcastle in the mid-eighteenth century.

At the end of the thesis are two Appendices. Appendix A is related to an attached CD-Rom which includes read-only copies of the two separate Microsoft 'Access' databases which contain the parish register data relating to the population studies contained in Chapter Two, and the probate inventory data contained in Chapter Three. In each of these chapters the tables will consist of data sourced from these databases unless otherwise stated. In addition the CD-Rom contains a file of digital copies of some of the Maps, pictures and documents used in this thesis, to enable closer examination. Appendix B relates to Chapter Five. The Diary of Ralph Jackson contains details of meetings between Ralph's master, Jefferson and individual ships' masters. The Table contains details of the dates of the individual shipments associated with these contacts, and links them to the corresponding entries in the Newcastle Port Books and Newcastle Chamberlains' Accounts.

Chapter One

The Economy, the River and the Sea

1.1 Setting the Scene

This chapter is designed to set the scene within which the water trades along the lower river Tyne lived and worked in the seventeenth and eighteenth centuries. It examines the local economy of the town of Newcastle upon Tyne and the surrounding hinterland in the context of the prevailing economic changes in England as a whole, and identifies the ways in which the local coal trading business operated. The chapter will also reflect upon the role of the river Tyne itself and how the it was used as a major route for the export of coal played a significant role in the development of the various parts of the community whose livelihoods depended on the coal industry. Newcastle upon Tyne and the other communities surrounding the lower part of the River underwent a period of rapid economic and social change between 1600 and 1800. Even by Elizabethan times Newcastle had become a significant town which boasted a population of around 10,000, and by 1700 was one of the largest towns in the country, (Table 1.1).¹ This development was underpinned by the large reserves of coal in the hinterland of the lower Tyne, which were being mined and exported at an increasing rate, the majority of the coal being transported coastwise to London and other towns throughout the East and South of England.² These changes in Newcastle and its surrounding communities occurred in the context of Britain's flourishing trade with the rest of Europe and colonies throughout the world.

From the late seventeenth century to the end of the eighteenth century England was in the process of an evolution that combined an increasing population with developing urbanisation,³ the population increasing from 6.5 million in 1680 to 8.7 million in

¹ E.A Wrigley, 'Urban Growth and Agricultural Change: England and the Continent in the Early Modern Period', *Journal of Interdisciplinary History*, 15: 4, (1985), 683-728; T.S. Willan, *The Inland Trade*, (Manchester: Manchester University Press, 1976), 32; P. Corfield, 'Urban Development in England and Wales in the Sixteenth and Seventeenth Centuries', in *The Tudor and Stuart Town, A Reader in English Urban History 1530-1688*, ed. J. Barry, (London: Longman, 1990), 46; C.W. Chalklin, *The Provincial Towns of Georgian England, A Study of the Building Process, 1740-1820*, (London: Edward Arnold, 1974), 14.

² Hatcher, *The History of the British Coal Industry*, 465.

³ T.S. Willan, *River Navigation in England 1600-1750*. (London: Frank Cass & Co., 1964), 1.

1801.⁴ With the increasing size and concentration of population Britain became a highly developed commercialised economy, associated with a growing proportion of the working population being involved in non-agricultural activities, even before the start of

<u>c. 1600</u>	<u>c. 1670</u>	<u>c. 1700</u>	<u>c. 1750</u>	<u>c. 1801</u>
London 200	London 475	London 575	London 675	London 959
Norwich 15	Norwich 20	Norwich 30	Bristol 50	Manchester 89
York 12	Bristol 20	Bristol 21	Norwich 36	Liverpool 83
Bristol 12	York 12	Newcastle 16	Newcastle 29	Birmingham 74
Newcastle 10	Newcastle 12	Exeter 14	Birmingham 24	Bristol 60
Exeter 9	Colchester 9	York 12	Liverpool 22	Leeds 53
Plymouth 8	Exeter 9	Gt Yarmouth 10	Manchester 18	Sheffield 46
Salisbury 6	Chester 8	Birmingham 9	Leeds 16	Plymouth 43
King's Lynn 6	Ipswich 8	Chester 8	Exeter 16	Newcastle 42

Source: Wrigley, 'Urban Growth and Agricultural Change', 686-687. The data in this table is taken from Wrigley's published table to highlight the relative size of the population of Newcastle between 1600 and 1800.

Table 1.1 Urban Population in England ('000s)

the Industrial Revolution.⁵ Concurrent with this process, the role of Britain in the world changed, to a role of dominance both in world trade and also militarily. Throughout the seventeenth and eighteenth centuries the development of the coal industry was taking place against the background of an economy which was being stimulated by the increasing flow of raw materials and manufactured goods to and from the American, Asian and African outposts of Empire.⁶

In general, Britain's internal markets were well developed, and its infrastructure was rapidly improving, providing a healthy environment for would-be entrepreneurs who were willing to take risks and work hard. By 1688 it was already a wealthy and sophisticated country by many standards,⁷ and this increased activity was reflected in

⁴ E.A. Wrigley, 'British Population During the Long Eighteenth Century', in *The Cambridge Economic History of Modern Britain*, Vol 1, ed. R. Floud & P. Johnson, (Cambridge: Cambridge University Press, 2004), 57.

⁵ J. Mokyr, 'Accounting for the Industrial Revolution', in *The Cambridge Economic History of Modern Britain*, Vol 1. ed. R. Floud & P. Johnson, (Cambridge: Cambridge University Press, 2004), 2.

⁶ S.L. Engerman & P.K. O'Brien, 'The Industrial Revolution in Global Perspective', in *The Cambridge Economic History of Modern Britain*, Vol 1, ed. R. Floud. & P. Johnson, (Cambridge: Cambridge University Press, 2004), 458.

⁷ Mokyr, 'Accounting for the Industrial Revolution', 27.

the rapidly growing coal industry and coal exports from the North East coast of England. It was towards the second half of our period that the process known as the Industrial Revolution began. The reasons why it occurred in Europe and Britain in particular was partly the availability of coal and other energy resources, but also the 'ghost acreage' of colonies abroad, which in addition to being a source of raw materials, provided a demand for manufactured goods which in itself stimulated growth and development.⁸ One of the reasons why Britain was particularly well placed to take advantage of these changes argues Mokyr, was that it had the benefit of a social elite with an unusual interest in technical improvement and an ability and willingness to absorb and apply useful ideas generated elsewhere. In addition Britain had the makings of a well functioning transport system favoured by nature and improved by investment, and the propitious location of some key resources, especially coal.⁹

These progressive changes emphasised the need for improved communication between centres which would enable trade and the exchange of goods and people to take place. Transport patterns within England were evolving during this period, largely driven by internal trade in a wide variety of commodities. Particularly during the later part of this period, technological innovation and change enabled a rapid evolution in the methods and quantity of production which, together with rationalisation of production, led to the development of larger production units forming factories in many of the major centres. This meant that the need for improved transport between centres became more apparent. These internal forces, together with an increasing external demand for raw materials and manufactured goods from the wider Empire, stimulated the development of more sophisticated means of transport between the centres of production and consumption and the port cities for export. Chartres observed that:

The history of transport in the sixteenth century remains largely unwritten and apart from Willan's work on water carriage, little of substance exists for the seventeenth century. The linkages between farm and market, between coal staith and consumer and between weaver and clothier were all largely by road. Developments in the road transport industry and costs of carriage underpinned the development of the home market.¹⁰

⁸ Ibid., 15. 'Whereas spectacular inventions were made and developed in the second half of the eighteenth century, the true miracle of the industrial revolution was that it did not peter out, but was followed after 1820 by a series of secondary inventions which although less spectacular, provided the 'muscle' to drive the downward trend in production costs and the spread of applications that maintained the momentum of the Industrial Revolution'.

⁹ Ibid., 17.

¹⁰ J.A. Chartres, *Internal Trade in England 1500-1700*, (London: Macmillan Press, 1977), 39.

Communication between centres overland remained difficult during the seventeenth century, most routes were only suitable for foot or packhorse carriers, the movement of larger loads carried by cart were limited by the poor road system.¹¹ Hey, in his description of the evolution of overland transport, emphasises the poor state of roads in the seventeenth century, which only began to improve with the development of increasing numbers of turnpike roads in the eighteenth century.¹² The growth in demands made upon the road system had led to the introduction in 1662 of the first Acts to take responsibility for the repair of roads from the local parish community into the realm of turnpike toll finance, and by the 1750s England's trunk roads were largely turnpiked. This included the Great North Road which was turnpiked north beyond Newcastle by 1747, and additionally from Newcastle to Durham, Sunderland and North Shields by 1749.¹³ These changes extended the potential markets for goods, and allowed the faster and cheaper transport of people and posts and consequently the movement of news and information.¹⁴ The introduction of the longer wheel-based wagon in the mid-sixteenth century spread quickly over the next 50 years improving transport by road. Growth continued during the seventeenth century with the development of the larger stage wagon with a swivelling front axle, as a result of which there was a further increase in road traffic, with Chartres estimating a doubling of scheduled services between 1637 and 1715.¹⁵

Willan emphasises the key role of river and coastal transport, noting that trade in all the major river basins in England tended to gravitate towards the river, then downstream, with the most effective route of communication between many regions proving to be the coastal route.¹⁶ The synergy between overland and water based transport is perhaps best illustrated by Hey's account of the significant role of Bawtry as an inland port fed by a variety of routes from its surrounding Yorkshire and Derbyshire hinterland, providing a route for import and export of commodities to and from both the rest of England and abroad.¹⁷ The construction of a network of canals in the eighteenth century enhanced the ability to transport large quantities of freight at acceptable cost

¹¹ M. Spufford, *The Great Reclothing of Rural England, Petty Chapmen and their wares in the Seventeenth Century*, (London: The Hambledon Press, 1984), 18-22.

¹² D. Hey, *Packmen, Carriers and Packhorse Roads*, (Leicester: Leicester University Press, 1980), 86.

¹³ W. Albert, *The Turnpike Road System in England 1663-1840*, (Cambridge: Cambridge University Press, 1972), 48.

¹⁴ Chartres, *Internal Trade*, 41.

¹⁵ Ibid., 40.

¹⁶ Willan, *River Navigation in England*, 3.

¹⁷ Hey, *Packmen, Carriers and Packhorse Roads*, 105.

between many centres of population in the southern two thirds of England. This did not become an option in the northern one third of England where trade tended to gravitate to the main rivers, exemplified by the Tyne where the vast majority of trade with the rest of the country was conducted by water. Carriage of goods on rivers and waterways had very considerable cost advantages in terms of cost per ton for each mile carried, resulting in the development and improvement of river navigations and the building of canals. In the seventeenth century people tended to regard the coasting trade as an extension of the river system. However the balance between the two is difficult to estimate because of the existence of significantly more statistical resources for the coasting trade, which are not available for the inland trades, thus leading to a possible exaggeration of the former's role in the totality of transport provision.¹⁸ Evidence suggests that the amount of coastal shipping increased substantially, over threefold, in the seventeenth century, with tonnage of coal-related shipping increasing from 28,223 in 1609 to 78,212 in 1702, with consequent reductions in freight charges creating further potential expansion of market share.¹⁹

The trade of the north-east coast of England was dominated by coal, which because of its bulk tended to be transported by sea. Newcastle upon Tyne was the greatest coal port in the country and by the late 1590s was exporting 26,277 tons of coal to Europe, and shipping 186,454 tons coastwise.²⁰ A number of attempts have been made to estimate the annual tonnage of coal exported in both the coastal and overseas trade from Newcastle in the seventeenth and eighteenth centuries, initially by Dendy in an appendix to his 'Records of the Company of Hostmen of Newcastle upon Tyne' in 1901 which were subsequently included by Nef in his *Rise of the British Coal Industry* published in 1932. The most authoritative account of exports for the seventeenth century comes from Hatcher in his critical re-analysis of the figures from Nef and Dendy, particularly those for the earlier part of the seventeenth century, which he published in *The History of the British Coal Industry* in 1993. Between 1700 and 1800 the figures collected by Dendy appear to be authentic.²¹ A combination of these figures has been used to construct Figure 1.1 and Table 1.2, in which we can see that Newcastle progressively increased its exports of coal between 1600 and 1800, by which time it was

¹⁸ Chartres, *Internal Trade*, 42.

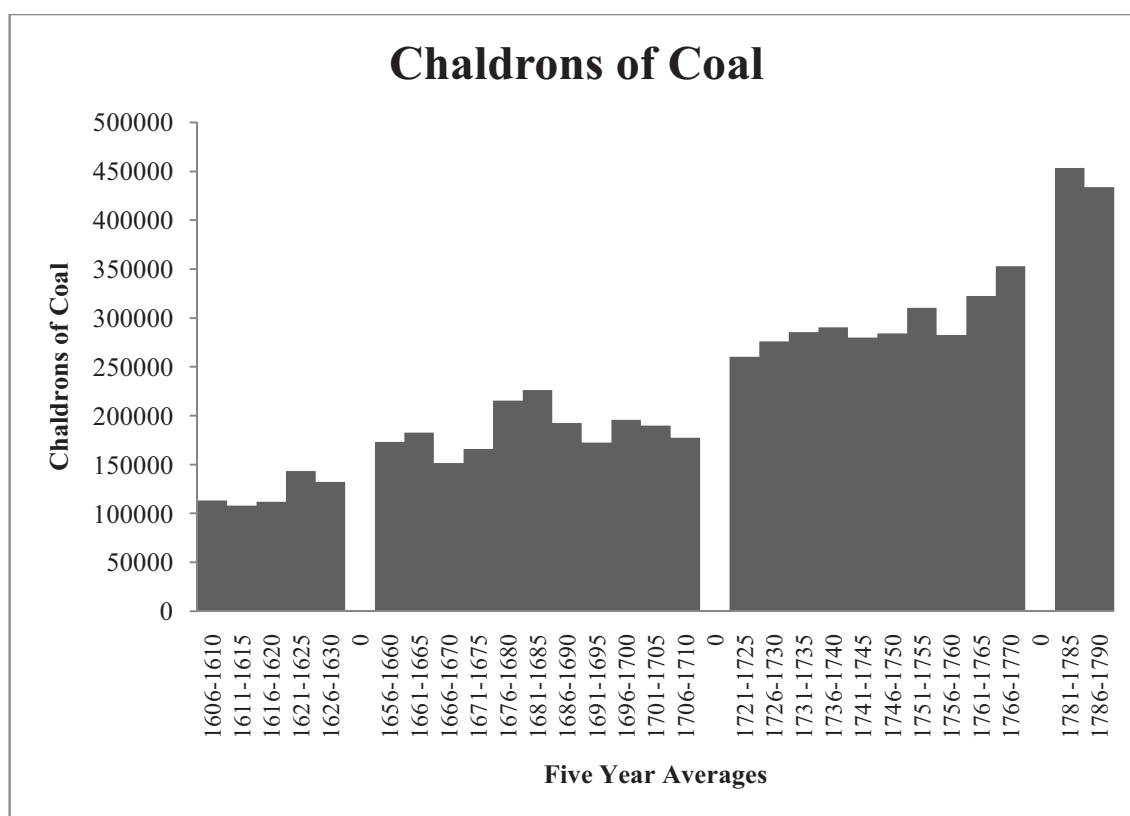
¹⁹ Ibid., 39-44.

²⁰ T.S. Willan, *Studies in Elizabethan Foreign Trade*, (Manchester: Manchester University Press, 1959), 67; Wrigley, 'Urban Growth and Agricultural Change', 32; Hatcher, *The History of the British Coal Industry*, 488.

²¹ Dendy, 'Company of Hostmen', 260-1; Nef, *The Rise of the British Coal Industry*, Appendix B; Hatcher, *The History of the British Coal Industry*, 497.

exporting over one million tons each year. In addition, as will be seen later in this thesis, Newcastle became an active centre of trade, exporting other commodities such as glass and salt in addition to coal and importing grain and other consumables. Defoe in 1726 refers to Newcastle as:

a spacious, extended infinitely populous place, 'tis seated upon the River Tyne', ...The Situation of the Town to Landward is exceeding unpleasant, and the Buildings very close and old ... which, together with the Smoke of the Coals, makes it not the pleasantest Place in the World to live in.²²



Note: The three gaps in the chart represent years for which no export data is available.

Figure 1.1 Five Yearly Average Total Coal Exports from the River Tyne

²² Defoe, *A Tour Thro' the Whole Island of Great Britain*, 660.

<u>Period.</u>	<u>Chaldrons.</u>	<u>Tons.</u>
1606-1610	113,295 (2)	300,232
1611-1615	108,078 (4)	286,407
1616-1620	111,938 (3)	296,636
1621-1625	143,207 (5)	379,499
1626-1630	132,051 (2)	349,935
1656-1660	173,289 (3)	459,216
1661-1665	182,810 (5)	484,447
1666-1670	151,411 (5)	401,239
1671-1675	165,873 (5)	439,563
1676-1680	215,365 (5)	570,717
1681-1685	226,283 (5)	599,650
1686-1690	192,514 (5)	510,162
1691-1695	172,559 (5)	457,281
1696-1700	195,654 (5)	518,483
1701-1705	189,804 (5)	502,980
1706-1710	177,358 (5)	469,989
1721-1725	260,324 (3)	673,190
1726-1730	275,972 (5)	731,295
1731-1735	285,632 (5)	756,924
1736-1740	290,571 (5)	770,012
1741-1745	279,806 (5)	741,867
1746-1750	284,048 (5)	752,727
1751-1755	310,245 (5)	822,148
1756-1760	282,516 (5)	748,667
1761-1765	322,546 (5)	844,746
1766-1770	353,000 (1)	935,450
1781-1785	453,500 (2)	1,204,275
1786-1790	434,000 (1)	1,150,350

Sources: Figures in brackets indicate the number of observations upon which the annual average tonnage over a 5 year period are based; Figures for 1600-1700 derived from: Hatcher, *The History of the British Coal Industry*, 497; Figures from 1701-1790 based on Dendy, 'Company of Hostmen', 260, Dendy derived the figures from the Hornsby Manuscript and included them in this publication. Gaps in the columns indicate lack of data for the relevant years.

Table 1.2 Total Coal Shipments from Newcastle upon Tyne 1600-1800
(5 Year Averages).

The hinterland of Newcastle was quite unusual in that it was relatively isolated from the rest of England, particularly with respect to the long distance transport of heavy materials in large volumes, by virtue of the inadequacy of the road system. The most effective mode of communication was by local road, and latterly waggon-way, to the river, down the river to its mouth and then by sea, either abroad or to other parts of the country. The destination for most of the coal exported from the Tyne was London, which had rapidly increased in size and activity during the period of this study and become the driving force which lay behind the development of the coal industry and its associated economy in Newcastle and along the river Tyne. Indeed as we shall see, not only did the London coal trade stimulate a rapid increase in the volume of coastal shipping to carry the coal to the metropolis, the stimulation of the local economy led to increasing demand for consumer goods, much of which used the same coastal route to bring such goods back to Newcastle on the return trips, carrying to the north many of the benefits of London's international shipping trade.²³

Any student of the history of Newcastle will be indebted to F.W. Dendy who in 1901 published a detailed history of the hostmen together with copious extracts from the records of the Company of Hostmen of Newcastle upon Tyne.²⁴ The hostmen of Newcastle played a key role in the development of trade on the River Tyne and its hinterland. In the Middle Ages hostmen were those free inhabitant householders to whom were assigned the duties of entertaining merchant strangers and supervising the sales and purchase of their wares and merchandise that were not already monopolised by an already established trade or guild. Coal and grindstones were the particular products of Newcastle that were not already controlled by a trade or guild, and it was these commodities that became the particular preserve of the Newcastle hostmen.²⁵ Coal had been identified as a source of income by the Crown as early as the fifteenth century, and a form of small cargo-carrying boat, the keel, had been used to carry coal on the river from the coal staiths to the colliers anchored near the mouth of the river. Taxes had been levied on each keel load of coal. However, the capacity of the keels was illicitly increased thus avoiding excise duty. An Act was passed in 1421 to enforce the

²³ B. Deitz, 'Overseas trade and metropolitan growth', in *London 1500-1700: The making of the metropolis*, ed. A.L. Beier, Roger Finlay, (London: Longman, 1986), 115-40; M.J. Kitch, 'Capital and kingdom: migration to later Stuart London', in *London 1500-1700: the making of the metropolis*, ed. A.L. Beier, Roger Finlay, (London: Longman, 1986), 115-223; E.A. Wrigley, 'A Simple Model of London's Importance in Changing English Society and Economy, 1650-1750', *Past and Present*, 37 (1967), 44-70.

²⁴ Dendy, 'Company of Hostmen.'

²⁵ Ibid., xxxvii; Brand, *The History and Antiquities*, 261-311; Charleton, *Newcastle Town*, 256; Nef, *Rise of the British Coal Industry*, 302, 405; Middlebrook, *Newcastle upon Tyne*, 41-2.

measurement and marking of keels to fix their capacity at 8 Newcastle chaldrons, (about 21 tons).²⁶ The first references to hostmen in Newcastle occur in the fourteenth century, with no further references until the sixteenth century, by which time they were exercising a monopoly over coal exports both to the continent and to London and other parts of England. Dendy quotes from Harrison's description of England, prefaced to *'Hollingshead's Chronicle'* edited in 1577, referring to a rapid increase in the use of coal as a domestic fuel being reported, noting that the reduced availability of wood as a fuel was resulting in increased use of coal, and observing that: ...'the home trade was beginning to grow from the forge into the kitchen and hall in most towns and cities that lay about the coast'.²⁷ It was in London where this increased need for coal as a domestic fuel was most significant, increasing demand from all producing areas, most prominently the North East of England and Newcastle in particular.²⁸ Gray in *Chorographia*, printed in 1649, also observed: 'Which trade of coale began not past fourscore yeares since ... and many great ships of burthen were built, so that there were more coales vented in one yeare, then was in seven yeares, forty yeares by-past'.²⁹

The hostmen, who were often also the Burgesses of Newcastle and the coal owners, exploited a custom often used in other cities of 'foreign bought and foreign sold'. This custom provided that any goods brought into the town by a foreigner, (either an Englishman or an alien) who was not a freeman, could only be bought by a freeman, and similarly any goods purchased must be bought from a freeman. Thus in every case of a purchase or a sale, one of the parties must be a freeman. The value of this custom had been greatly enhanced by a statute passed in 1529 designed to protect the Crown, and for easier collection of customs duties by the hostmen on behalf of the Crown, which stated ...'that no person should ship, load, or unload any goods to be sold into or from any ship, at any place within the river of Tyne within tidal limits, except at the town of Newcastle.'³⁰ The effect of this statute was that any coal owners in Northumberland or Durham who wished to ship coal from the Tyne had to take their cargo to Newcastle, and then on the basis of the custom of 'foreign bought and foreign

²⁶ Charlton, *Newcastle Town*, 254; H. Bourne, *The History of Newcastle upon Tyne*, 158.

²⁷ Dendy, 'Company of Hostmen', xxix.

²⁸ Hatcher *The History of the British Coal Industry*, 474; B. Dietz, 'The North East Coal Trade, 1550-1750: Measures, Markets and the Metropolis', *Northern History* 22 (1986), 280-94; Deitz, 'Overseas Trade and Metropolitan Growth', 114-40 ; W.J. Hausman, 'Market Power in the London Coal Trade: The Limitation of the Vend, 1770-1845', *Explorations in Economic History*, 21 (1984), 383-405.

²⁹ Gray, *Chorographia*, 90.

³⁰ Dendy, 'Company of Hostmen', xxxi.

sold' they had to sell the cargo to the freemen of Newcastle who then re-sold it to the buyers.

Trade in Newcastle and on the Tyne had a number of other characteristics which differentiate it from trade in other parts of England. As described by Roger Howell in his accounts of politics in Newcastle during the seventeenth century, the town had always been run by a small and exclusive 'inner ring' of powerful merchants, mainly coal merchants including the hostmen and mercers, often known as the 'Lords of Coal', much of whose power had been legitimised by a series of charters from the crown towards the end of the sixteenth century.³¹ The key to this power was the granting of what came to be known as the Grand Lease. In 1578 Elizabeth I obtained from the Bishop of Durham the lease of some very productive coal mines in the manors of Whickham and Gateshead. The Queen passed her rights to Thomas Sutton the Master for the Ordnance for the North. Sutton's intentions had been to work the mines for himself, but persistent opposition from the merchants of Newcastle prevented him gaining the freedom of the town, which was necessary for him to conduct trade in his own right. Sutton eventually gave in and in 1583 agreed to pass the rights to the Burgesses of Newcastle. Unfortunately, because Newcastle had not received a charter of incorporation the town was unable to receive the rights to the Grand Lease, but provided much of the money to allow the mayor Henry Anderson and an alderman William Selby to purchase the rights on the town's behalf, pending the granting of a charter.³² In 1589 a charter was granted to Newcastle, but Anderson and Selby refused to transfer the extremely profitable Grand Lease to the Town. The effect of this was that a small group of merchants who had a share in the Grand Lease held a monopoly over the trade in coal and were maximising their profits by raising the prices. Eventually, following protests from all of the guilds in Newcastle, and the Mayor of London, the Privy Council instituted an enquiry as a result of which a new charter was granted to Newcastle in 1600. In this charter the coal merchants, or hostmen, who were members of the Newcastle Company of Merchant Venturers, were formally incorporated as a separate

³¹ R. Howell, 'Newcastle and the Nation: The Seventeenth Century Experience', in *The Tudor and Stuart Town, A Reader in English Urban History 1530-1688*. ed. J. Barry, (London: Longman, 1990), 275-96. This article gives a detailed account of the political conflicts between the Crown and national government on one hand and local government on the other using Newcastle as a case study; R. Howell, *Newcastle upon Tyne and the Puritan Revolution*, (Oxford: Oxford University Press, 1967), 35-62.

³² Examination of the Durham Probate Indexes reveals an Inventory for a Henry Anderson, Merchant and Hostman dated 1637 which is valued at only £188, but does include a Mill. (DUL, DPRI/1 Inv1637). Presumably this refers to the Henry Anderson named above, although there were a number of Andersons with other forenames listed who had significantly greater wealth. Sadly there was no surviving Inventory for a William Selby.

company, the Company of Hostmen, with exclusive rights to trade in coal provided that they did not excessively increase its price, and levied a tax on behalf of the Crown of 1s. per chalders on all coals shipped to English ports and 5s. on coals shipped abroad.³³ This group had been opposed throughout by a reform group within the town, which sought to preserve the rights of the general body of freemen.

An additional issue was the conflict between the Burgesses of Newcastle, based mainly on the north bank of the river, and the Church, as manifested by the Bishopric of Durham which owned much of the land south of the Tyne, influencing key areas such as Tynemouth Priory. By virtue of its position on the North bank, at the mouth of the river, the Priory exerted a degree of control over trading ships entering the river. Notwithstanding the ownership of the river bed resting with the Crown, agreement was reached that control over the water of the river would be exercised in thirds, the northern third by the Burgesses of Newcastle, the southern third by the Bishopric of Durham and the central third shared.³⁴ However, the Burgesses of Newcastle continued to exercise an effective monopoly over trade on the river Tyne, particularly in coal, by implementing the taxation measures on behalf of the Crown, and imposing trading rules which meant that any trade in coal could only be conducted through agents in Newcastle, the hostmen.

In the seventeenth century the situation was further complicated by Charles I making an agreement with the hostmen that he alone was to have a monopoly of the sale of coals, the agreement contracting the hostmen to sell coals only to the King at a fixed price, the price at which he was to sell them was at his discretion. These arrangements lapsed on the establishment of the Commonwealth, when the Commissioners of the Parliament of England ordained that a free and fair trade should be held in Newcastle for coals.³⁵ Fortunately for the hostmen, on the Restoration of Charles II in 1660 the monopolies were re-instituted, and trade flourished. However, there were several attempts by 'unfreemen' to sell coals directly to ship owners bypassing hostmen and freemen and resulting in frequent legal disputes and attempts by freemen to impose fines upon the 'offenders'. At the beginning of the eighteenth century the monopoly rights of the hostmen came under more intense legal challenge

³³ Levine and Wrightson, *The Making of an Industrial Society*, 17-25.

³⁴ J. Brand. *The History and Antiquities* Vol 2, 5: Levine and Wrightson, *The Making of an Industrial Society*, 1-10.

³⁵ Dendy. 'Company of Hostmen', xxxiii; Ibid. 77n. Charles even recognised the concept of gift coal in 1637 in an Order in Council, Welford, *History of Newcastle and Gateshead*, 346.

and by the end of that century the hostmen had ceased to assert their alleged privileges.³⁶

During the latter half of the seventeenth century there were a number of occasions when the demand for coal, and hence its price fell significantly. This took place partly because demand fell during the Dutch wars during the latter half of the seventeenth century, when blockades were interfering with the coastal trade, and also because the coal mines were producing much more coal than was required by the buyers. Several attempts were made by the coal owners and hostmen, who were frequently one and the same, to form a combination to regulate the vend of coal and artificially maintain high prices. Many attempts were made to undermine this process by some coal owners providing 'gift-coal' by giving twenty five chaldrons rather than twenty chaldrons to the score, thus effectively undercutting the competition.³⁷ In 1710 an Act of Parliament was passed making illegal such combinations and undercutting contracts, although this did not completely eliminate the practice.³⁸

At the beginning of the seventeenth century most of the hostmen were coal owners and the fitters were apparently their paid servants or agents, appointed by them individually or as a group to fix cargoes for them with buyers from a distance, and to get the coal delivered by keels from the colliery staiths to the ship.³⁹ As time passed a greater proportion of the hostmen were no longer coal-owners, and used their position as hostmen to act as agents (or fitters) for the sale of coal from both freemen and unfree coal-owners, changing the nature of the hostmen to a fraternity of chartered fitters, indeed the role was so defined in 1703 in a case referred to the Attorney General:

There are at Newcastle-upon-Tyne, men called hostmen or fitters. The Business they take upon them is to take care of the loading of coals brought from the adjacent collieries into keels or boats and conveying them in such keels or boats to the ships that bring them from Newcastle. And it is now become a practice for these hostmen to buy coals at certain prices of the owner of the collieries and to carry them in keels and sell them to the ship masters.⁴⁰

³⁶ Dendy, 'Company of Hostmen', xlix.

³⁷ Ibid., xlv-xlvii; Nef, *The Rise of the British Coal Industry*, Vol 2, 110-19.

³⁸ Dendy, 'Company of Hostmen', xlv.

³⁹ Ibid., xlvii; J. Hatcher, *The History of the British Coal Industry*, 466-8.

⁴⁰ Dendy, 'Company of Hostmen', xlviii.

By 1800 the Hostman's Company's claim to a monopoly of dealings with coal had become extinct, and the position of the fitters less dominant, indeed Dendy quotes Nathaniel Clayton in evidence to the House of Commons Committee as saying: 'The price is fixed by the coal-owners and the fitter is not at liberty to sell at more or less than that price'.⁴¹

During the course of the eighteenth century the work of the hostmen continued to be regulated strictly. The records of the company in 1735 listed the main rules under which they worked:

1. That the several Fitters' vends be proportioned each month.
2. That no Fitter load a ship where a Brother or his coal owner is an adventurer.
3. Every Brother to contribute his proportion of the costs of the trade.
4. No Fitter to make any allowance, abatement or gift to any merchant. Ship owner or ship's master ... for use in money coals or any other respect.
5. That every Brother shall give in every month a full and true account of all the ships he has loaded and with what sort of coals.
6. Each fitter who has exceeded his vend to make up the vends of those fitters who were short.
7. No brother to load a ship that has not delivered regularly until 10 days after the ship that delivered in London before her is loaded.⁴²

Included in these records were comments from a number of dissenting Brothers who made it very clear that they were not prepared to co-operate with these rules, but there are few entries subsequently to indicate whether these refusals were followed up by either party. It is particularly interesting to observe the priority being given to both the London trade and those ships which were regulars in the trade, indeed there are further directions which indicate that a ship which was not a regular in the Newcastle coal trade with London may load with two keels of coal on arrival, but may not complete loading until the ten day rule is fulfilled.⁴³

There is a theme in much of the literature which tends to portray the coal-owners as being unscrupulous profiteers, forever striving to increase profits from the sale of coal, if necessary by forming combinations and cartels to artificially increase prices. However Gray, in *Chorographia*, suggested that there were considerable risks to coal

⁴¹ Ibid., xlix.

⁴² Ibid., 194-5.

⁴³ Ibid., 196-7.

owning, and that there were very few making large profits: ‘One coale merchant imployeth five hundred or a thousand in his works of coal; yet for all his labour, care, and cost can scarce live of his trade; nay many of them had consumed and spent great estates and dyed beggars’.⁴⁴ Similarly Ellis argued that it was entirely plausible to argue that the primary aim of cartels among the Newcastle coal-owners was defensive, designed to protect the huge sums of capital involved from what was an unparalleled risk in contemporary enterprise. Where the proportion of fixed capital costs were so high, productivity and profitability had to be guaranteed at a high level to maintain the viability of a colliery.⁴⁵ Although most literature referring to trade on the River Tyne relates to coal and the complex trading processes involved, in fact there was a wide variety of other water-borne trade both leaving and arriving in the river and the Port of Newcastle. The overall nature of trade on the Tyne in the seventeenth century is perhaps best illustrated by Willan, when he writes: ‘Newcastle was the centre of three important industries, coal-mining, glass-making and salt-making. Of these three coal-mining was the most important both in itself and the fact that the other two depended on it ...’⁴⁶

As will be seen in Chapter 4 in which Newcastle Port Books are examined there were, in addition to coal, significant exports of both salt and glass, both in the form of window pane glass and also glass bottles. Over the subsequent one hundred years the same pattern of trade continued, with the addition of butter as a significant export by 1731, during which year 10,952 firkins were exported to London.⁴⁷ Otherwise the port books show that the town continued to export coal, salt and glass, importing consumables, particularly grain and increasing quantities of household goods, particularly from London, together with significant amounts of wine sherry and port. Local newspaper advertisements of around 1720 invariably contained extensive adverts for port wine.⁴⁸

Notwithstanding the vast amounts of income earned by the town of Newcastle over hundreds of years of trading, very little was spent on maintaining the navigability of the river itself. This was in stark contrast to many port cities around the English coast, including Sunderland, which spent large sums deepening the rivers and

⁴⁴ Gray, *Chorographia*, 84.

⁴⁵ Ellis, ‘Cartels in the Coal Industry’, 134-48.

⁴⁶ T.S. Willan, *The English Coasting Trade, 1600-1750*, (Manchester, Manchester University Press 1959), 115.

⁴⁷ Ibid. 116; Ellis, ‘The “Black Indies”’, 1-26.

⁴⁸ *Newcastle Courant*, April 1725, Newcastle Libraries and Information Service, Local Studies Section. (NCL/LS).

improving access and navigability. Little such investment was made on the Tyne, and even by 1860 the river remained in a poor state. Guthrie states that ships had to be partly unloaded at North or South Shields in order to reduce draught sufficiently to reach Newcastle Quay, or were unable to depart until the highest tides when fully loaded:⁴⁹ ‘Vessels of moderate size and draught were detained for weeks after loading, unable to get to sea at the top of high water.’⁵⁰ Many loaded ships were running aground at the Tyne bar, and trade was rapidly being lost to Sunderland where the depth of water in the port was several feet deeper. The reason for the deterioration of the Tyne was twofold. In addition to neglect by the Burgesses of Newcastle it was also caused by uninhibited deposition of ballast in and around the river, as evidenced by the numerous ballast hills along the river banks. Bourne records a John Phillips being fined in 1616 for illegally ‘casting ballast’ between Souter and Hartley.⁵¹ It was the limited navigability of the river that led to the necessity of transporting cargoes from Newcastle and the surrounding areas by boats and keels to the larger cargo bearing ships moored in the Tyne entrance at North and South Shields. It could legitimately be argued that the whole community of river-based water tradesmen, in particular the keelmen, were created as a result of this strategy of relative neglect of the need for improvement to maintain the navigability of the river by the town of Newcastle. Without some form of intermediary transport it would not have been possible for the coal industry in and around Tyneside to have developed in the way that it did. The coal-carrying keel became an integral part of the trade in coal and the implementation of coal-related excise duties, a service which was provided on the basis of private finance by the traders, rather than the town maintaining the navigability of the river by clearing and deepening the channel, which would have had to have been funded by the town itself.

1.2 The River Tyne and its Navigability.

To fully understand the evolution of trade on the Tyne it is important to understand the geography of the area, in particular the topographical relationships between Newcastle, the River Tyne and the coast at Tynemouth. There are a number of surviving maps and prints showing Newcastle upon Tyne and the River Tyne during the seventeenth and eighteenth centuries. When these various sources are viewed together

⁴⁹ Ellis, “Black Indes”, 20.

⁵⁰ J. Guthrie, *The River Tyne, its History and Resources*, (Newcastle upon Tyne: Andrew Reid, 1880).

⁵¹ Ellis, “Black Indes”, 20.

⁵¹ Bourne, *History of Newcastle*, 160.

they provide an illuminating picture of the development of Newcastle and its surrounding communities along the river. They include examples of the finest contemporary chart and print-making, together with some relatively crude hand-drawn maps, which in spite of their simplicity yield some very valuable information about the evolution of the river as a trading waterway. As was noted by Robinson in his history of British chart making, up to the middle of the seventeenth century English sailors were dependant on the Dutch for charts, as only they had both the cartographic and copper engraving skills.⁵² Even when John Seller published a compilation of charts of the English coast, *The English Pilot* in 1671, he was dependant on refurbished Dutch copper plate engravings which had been bought as scrap. It was not until 1681 when Captain Greenville Collins (d. 1694) began a detailed survey of the coast that quality English charts were produced.⁵³ The following description and commentary upon four charts of the River Tyne, a Map of Newcastle upon Tyne and a contemporary engraving of Newcastle will assist in providing an understanding of the geographical background of Newcastle's river traffic and the individuals who took part in it.

1.2.1 *Tyne Map 1650*⁵⁴

This map (Fig 1.2) is dated 1650 and has been ascribed to the well-known mapmaker Herman Moll (1654-1732), however it is doubtful that the attribution is entirely correct. At best it is likely to be a later copy of a map of that date, as Moll was not born until 1654 in Bremen. He arrived in England in about 1675, living in London and becoming known as an engraver on copper and a prominent member of coffee house society with a circle of friends, which included Daniel Defoe and the scientist Robert Hooke.⁵⁵ Indeed it is doubtful whether Moll made any contribution at all to this map as there is no evidence of his characteristic signature 'H. Moll sculph' anywhere on it. If there is doubt about the attribution then the suggested date of the map must be viewed equally critically. A clue to the date comes in the city map of Newcastle and Gateshead which appears at the top of the map. When the details of the depiction of the city are compared with those that are shown in the map of Newcastle upon Tyne prepared by Corbridge in

⁵² A.W.H. Robinson, *Marine Cartography in Britain, A History of the Sea Chart to 1855*, (Leicester: Leicester University Press 1962), 38-42.

⁵³ Ibid. 38-42.

⁵⁴ River Tyne Map 1650, TWAM dx.275.4.

⁵⁵ Dennis Reinhartz, 'Moll, Herman (1654?-1732)', *Oxford Dictionary of National Biography*, (Oxford, Oxford University Press, 2004; online edn, 2008), <http://www.oxforddnb.com/view/article/18912>, accessed 28 Jan. 2011.

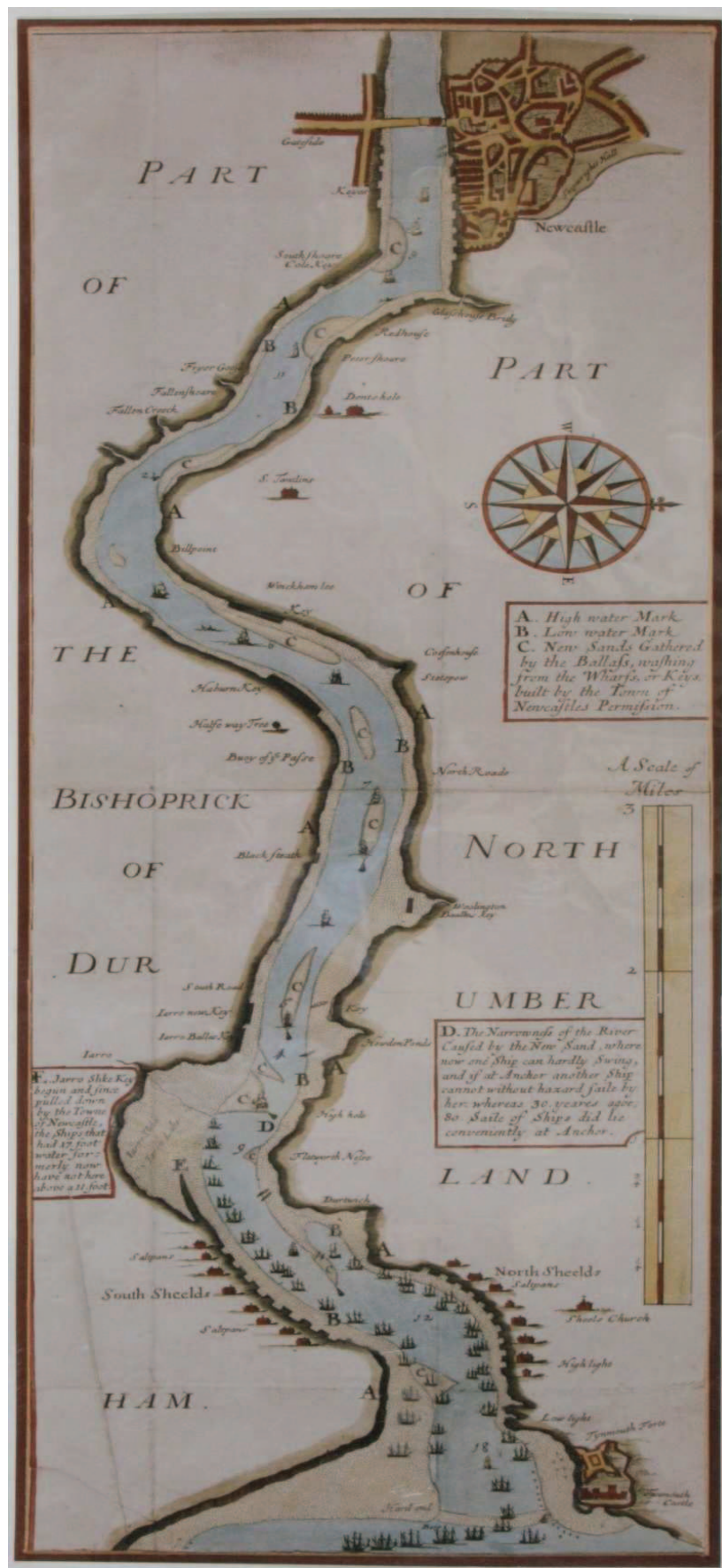


Figure. 1.2 Map of the River Tyne 1650.

1723 in which both Newcastle, and Gateshead on the South side of the river, are shown as much more extensive towns with, in the case of Newcastle, significant spread of the town beyond the city walls.⁵⁶ This tends to indicate that the more modest size of Newcastle with little or no extension outside the city walls shown in the 1650 map is likely to represent the true size of the city over seventy years earlier, supporting the attribution to a date around 1650. Notwithstanding the doubts about its attribution, the 1650 map provides us with some useful information about the geography of the River Tyne and its immediate surroundings, and how they might have influenced trade.

The range of the map extends from Newcastle and the Tyne bridge in the West to the mouth of the Tyne and the harbour sand bar at its entrance. It is provided with a compass rose to demonstrate its orientation and a detailed descriptive legend which identifies the high and low water marks (A&B) together with 'C' which identifies the various sand banks and obstructions due to 'New Sands Gathered by the Ballast washing from the Wharfs or Keys built by the Town of Newcastle's Permission.' These features occur throughout the length of the river, with the sand banks caused by excess ballast deposition being responsible for four islands arising in the middle of the river, a number of which were of sufficient navigational significance to warrant marking with beacons and buoys, together with significant narrowing of the river by deposits at the inner banks on a number of bends in the river. There are two additional features which are identified closer to the river mouth. Towards the mouth on the north bank at Howdon Ponds, opposite Jarrow, a further obstruction 'D' is noted: 'The Narrowness of the River Caused by the New Sand, where now one Ship can hardly Swing, and if at Anchor another Ship cannot without hazard sail by her whereas 30 yeares ago 80 Sail of Ships did lie conveniently at Anchor.' A short distance further towards the sea there is another annotation 'E' at the place which is now known as Jarrow Slake: 'Jarrow Slike Key begun and since pulled down by the Town of Newcastle, the Ships that had 17 foot water formerly now have not here above 11 foot.'

Throughout the length of the river the map displays depths which are most probably expressed in feet, and by convention were almost certainly depths at low tide. From the readings it would appear that the depth at the mouth of the river between North and South Shields was eighteen feet, shelving to twelve feet by one mile into the river, as taken from the distance scale on the right of the map. Further up the river

⁵⁶ Map of Newcastle upon Tyne by Corbridge, 1723, TWAM D/NCP/2/6.

towards Newcastle the depths shelved to between nine and eleven feet. The deepest point was just off Bill Point about one third of the way towards the mouth where the river deepened to 21 feet, almost certainly as a result of scouring of the river bed as it turned the bend, this contrasting with some shallower points with depths falling as low as 6 feet. The volume of shipping trade using the Tyne is indicated by the very large number of ships shown on the map, particularly from the mouth up to Jarrow. The map also implies the size and type of ships using different parts of the river. Up to point 'E' at the Eastern end of Jarrow Slake the ships are almost exclusively portrayed as being three masted with many of them displaying a fore and aft sail on the mizzen mast. Those ships above this point were all two masted, and by implication smaller. These ships were almost certainly Newcastle Colliers which were 'Cat Barques,' most of which were three masted with a Gaff sail but no topsail on the mizzen mast.⁵⁷ The most famous example of this type of ship was James Cook's *Endeavour*, which was Whitby-built, 97ft (29.6m) long and 368 tons burden.⁵⁸ As shown on the maps, the ships were usually moored close to the mouth of the river. The keels were brought alongside and the coal loaded by shovels through rectangular open ports cut into the collier's topside planking. Before departure the ports were closed and caulked to make them watertight before proceeding to sea.⁵⁹ Further up the river there appear to be a number of smaller boats, mainly single masted which are likely to have been either sailing keels or other small trading craft with more complex rigs.

On the land on either side of the river can be seen a number of smaller communities some of which still exist today. Shortly after leaving Newcastle heading for the coast Glasshouse Bridge crossed the mouth of the Ouseburn, where a more modern bridge of the same name exists today in exactly the same place. Further East on the North side comes 'Petersshore' which is currently known as St Peters, just opposite to Fryers Goose on the South shore which is also still there today, together with 'Fallensshore', which today is known as Felling. Just East of St Peters is Dents Hole which was a very busy community where many keels were based, but no longer exists.

⁵⁷ A. Osler, A. Barrow, *Tall Ships Two Rivers*, (Newcastle upon Tyne: Keepdate Publishing, 1993), 18-24. These authors provide a detailed historical review of the evolution of English coastal trading ships from their origins as Dutch trading ships called Fluyts and one of their close relatives the Katschips. At the end of the first Dutch War (1652-54) England gained between 1,200 -1,500 fluyts and katschips as prizes, with a further 1,000 being gained from the subsequent Dutch Wars. These trading ships joined the English trading fleet and significantly reduced demand from English shipbuilders for many years, and with new built ships retaining the designation of a 'Cat Ship' or 'Cat Barque.'

⁵⁸ Ibid., 19, Launched in 1764 as the *Earl of Pembroke*, a collier. She was purchased by the Navy in 1768 for the scientific mission to the Pacific Ocean and commissioned as *HMS Endeavour*.

⁵⁹ Ibid., 24.

The river makes a very sharp turn at this point around Bill Point on the North shore, with the area known today as Bill Quay opposite on the South shore. Just East of Bill Point lies Winckhamlee where there was a very important coal quay which was the base for many of the Newcastle hostmen to export their coal. Just over halfway from Newcastle to the sea lies 'Woolington Ballast Quay' on the North shore. This now exists as Willington Quay with many small boat moorings around the inlet. About two miles before the river meets the sea we reach the important community of Jarrow on the South shore with Howdon opposite on the North shore. From Jarrow Eastwards on both banks of the river down to North and South Shields the map shows numerous saltpans. Here the saltwater from the sea was heated in pans using coal to evaporate the water producing salt which was sold in large quantities both at home and abroad until alternative sources were discovered in the middle of the eighteenth century.⁶⁰

1.2.2 *Navigational Chart of the River Tyne and its Approaches 1693.*⁶¹

This map (Fig. 1.3) is one of the most important to appear in the seventeenth and eighteenth centuries. It is a navigational chart prepared by the Hydrographer to the King, Captain Greenville Collins. He was a very important figure in cartography who had travelled the world, including voyages to the South Seas and also went on an expedition to explore the North East Passage to China where he was rescued from shipwreck near Novaya Zemlya. During these voyages he became known for the quality of his hydrographic skills and his maps. In 1681 he was commissioned to undertake the first comprehensive survey of the coasts of Britain. This work was supervised and financially supported by Trinity House, Collins becoming an Elder Brother in 1693. The work was completed in 1693, and about one third of the charts were engraved. A significant number of these engravings were prepared by Herman Moll at an early stage in his mapmaking career.⁶² This map is dedicated by Collins to the Master and Brethren of Trinity House and clearly originates from one of Herman Moll's engravings as it carries his mark 'H.Moll Sculph'. The map represents a navigational chart of the coast around the mouth of the Tyne from Sunderland up to Blyth, and provides a detailed outline of the coast and the navigable parts of the rivers Wear, Tyne, Seaton Sluice and Blyth. The detail is remarkable, showing depths in the rivers at both low water and high water spring tides at intervals of approximately 200

⁶⁰ Ellis, 'The Decline and Fall of the Tyneside Salt Industry, 45-58.

⁶¹ TWAM D/NCP/5/1.

⁶² Elizabeth Baigent, 'Collins, Greenville (d. 1694)', *Oxford Dictionary of National Biography*. (Oxford: Oxford University Press, 2004; online edn. Sept 2010), <http://www.oxforddnb.com/view/article/5938>, accessed 28th Jan. 2011.

yards all the way up the rivers to the limits of navigation, which in the case of the Tyne is taken as the Tyne Bridge. The detail is clearly described on the chart as: 'The Depth of the water within the Barr in the River Tyne, in Blyth Seaton Sluice and Sunderland is set down in Feet, the figures above the line show the depth at high water

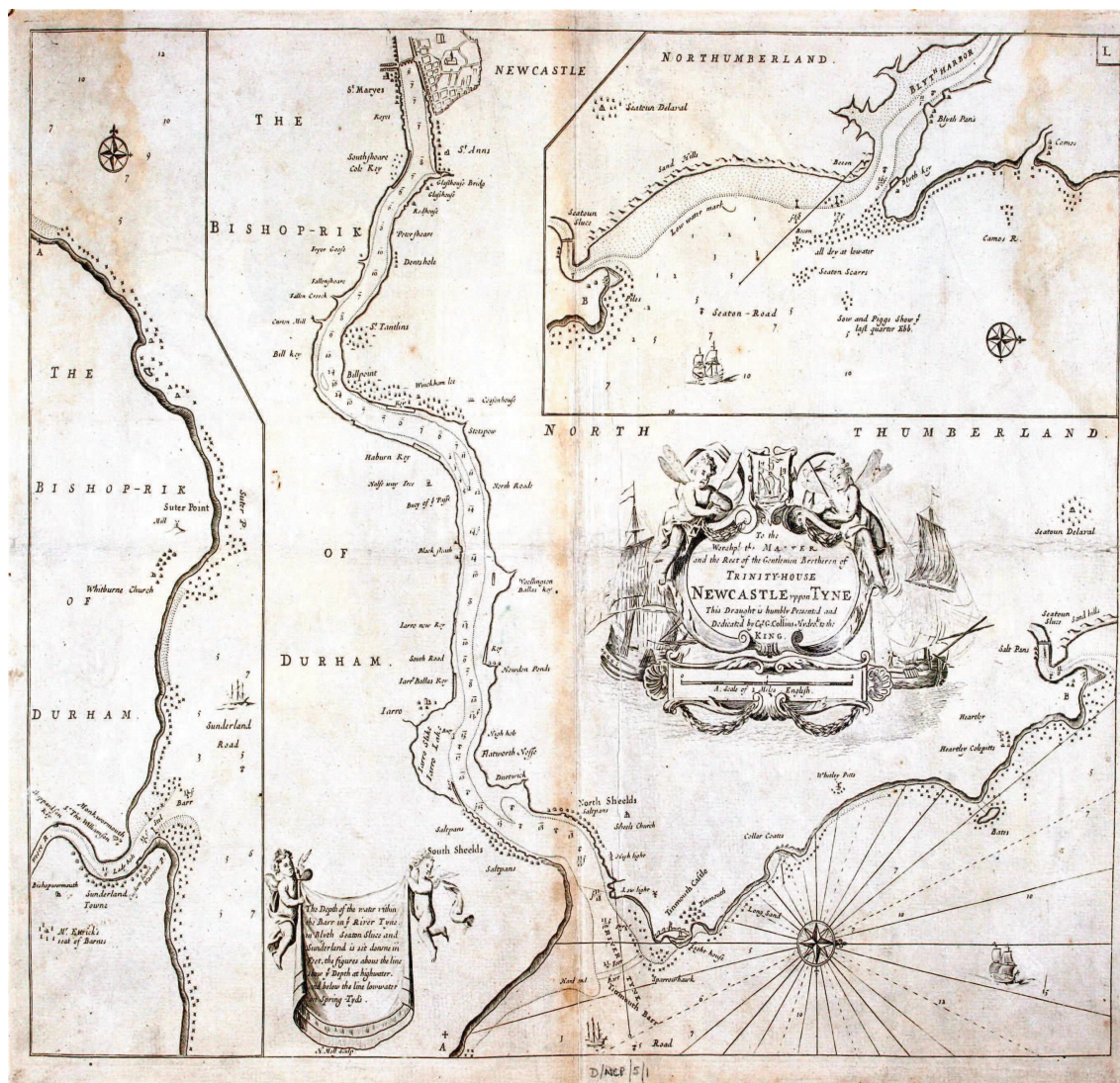


Figure 1.3 Captain Greenville Collins' Chart of Tyne and Approaches 1693.

and below the line low water, both at Spring Tyd's'. Beyond the harbour bar the depths in the sea are shown as fathoms. This chart is of the highest quality, and very similar in style and notation to the Admiralty Charts which are published today.⁶³ In addition to information about depth the chart shows navigational hazards such as rocks, and also displays the leading marks for the Tyne entrance, the High Light and the Low Light and

⁶³ United Kingdom Hydrographic Office, International Chart Series, *England East Coast – River Tyne*, Chart no. 1934, 2009.

the bearing on which they lie when in line to give ships a safe route into the river. The detail shown on the banks of the river and along the coastal strip is very similar to that shown in the 1650 map, although by 1693 Newcastle and Gateshead seem to have expanded beyond the boundaries shown in 1650. In addition, although all of the settlements and quays are shown together with the salt pans around North and South Shields, the chart does not include pictures of the ships anchored near the shore. It does however indicate the sites where ships might lie safely at anchor by a small symbol of an anchor, a charting convention which is used to this day.

The chart indicates a tidal range between spring high and low tides of thirteen feet falling to about eight feet at neap tides, which is very similar to the tidal range at spring tides of four metres that we might expect today, and this range would be about the same in Newcastle as at Tynemouth. This would mean that with a minimum depth in the river at about six feet, both near Newcastle Quayside and at a number of points between Newcastle and Tynemouth, the depth at spring high tide would be of the order of nineteen feet, falling to fourteen feet at neaps. From Chapman's data modified by Osler it is clear that in the mid-eighteenth century the draught of a one hundred foot long English 'Cat', with a tonnage of between 150 and 200 tons, was about fifteen feet.⁶⁴ This means that with care the river was navigable to quite large ships up to Newcastle quayside, as Defoe stated in 1720.⁶⁵ The problem which larger ships faced was the time required to navigate the distance up the river of approximately eight miles between the harbour entrance and Newcastle quay, which would be possible in a single tide with a favourable wind, but with contrary winds and low tides it may have been necessary to anchor to await deeper water and better conditions, rather than face the risk of running aground and stranding. This is one of the reasons why many ships masters chose to anchor near the mouth of the river and have their cargo brought to them in keels or other small boats.

1.2.3 *Chart of The River Tyne 1700-1750.*⁶⁶

This chart (Fig. 1.4) is of uncertain date, originating some time between 1700 and 1750. The only sign of an attribution is a legend below the title shield 'Jas Larken Sculphsit'.

⁶⁴ A.G. Osler, Personal Communication, (e-mail 26 November 2009), from a table in F.H. Chapman, *Architectura Navalis Mercatoria*, (Stockholm: 1768), Dimensions of various cargo-carrying eighteenth-century sailing ships, draughts expressed in Swedish feet, and corrected by Osler to English feet.

⁶⁵ Defoe, *A Tour thro' the Whole Island of Great Britain*, 659.

⁶⁶ Chart of the River Tyne, 1700-1750, TWAM D/NCP/5.2.



Figure 1.4 Chart of the Tyne 1700-1750

No biographical details of this engraver can be found, but the chart is very similar to the Collins chart of 1693 in almost every detail, apart from a lack of depth soundings and marking of hazards in the river. It has only one depth sounding within the river of eleven feet just east of Winkhamlee staith. Much more detailed navigational information is shown around the Tyne entrance where depths in fathoms are shown from the Bar out to sea, together with the bearing of the High and Low lights to allow safe entry into the river. In addition it provides illustrations of the directions of the tidal streams at different states of the tide. The size of the population centres is little different from those shown in the 1693 Collins chart, implying that its date of origin was probably closer to 1700 than 1750.

1.2.4 *Map of the Tyne 1765.*⁶⁷

This map (Fig. 1.5) has a date of 1765 and is believed to be a copy of the Collins map of 1693. It is a rather crude hand-drawn map, but is of particular interest because it updates the soundings provided in Collins map and shows where a number of buoys had been placed in the river to denote hazards. The most interesting feature is that at almost every point two depth readings are shown, a reading for 1752 in red ink and a reading for 1765 in black ink. It is interesting to compare the depths for the two dates which show that at many points there was little difference between the depths in 1752 and 1765, and if anything the depths in 1765 tended to be deeper. When comparing the soundings with those recorded by Collins in 1693 there have been a number of changes. The depths around Newcastle and the Quayside are little different; however, the depths around Bill point have almost halved by 1765, and where there was an island just East of Hebburn Quay in 1693, by 1765 the island had become joined to the South shore with a sand spit which was shown as 23 paces wide. From Willington Quay to the mouth of the Tyne there had been little further change in depth apart from some silting up around the North Shields shore where the depths had been reduced from eighteen feet to thirteen feet. These changes in depth seemed to confirm a degree of general silting up of the river, probably as a result of excessive ballast deposition. However, the degree of silting in tidal rivers is notoriously variable being subject to scouring from the increased flows after intermittent storms and unusually high tides. The annotations along the river banks show an increasing number of staiths over the intervening period since the Collins chart was drawn, in particular a number of docks have appeared particularly at Howdon on the North bank and Jarrow on the South bank, and a dry dock

⁶⁷ Map of the Tyne 1765, Bell Collection, Vol. 1, NCL.LS. L942.8 T98.

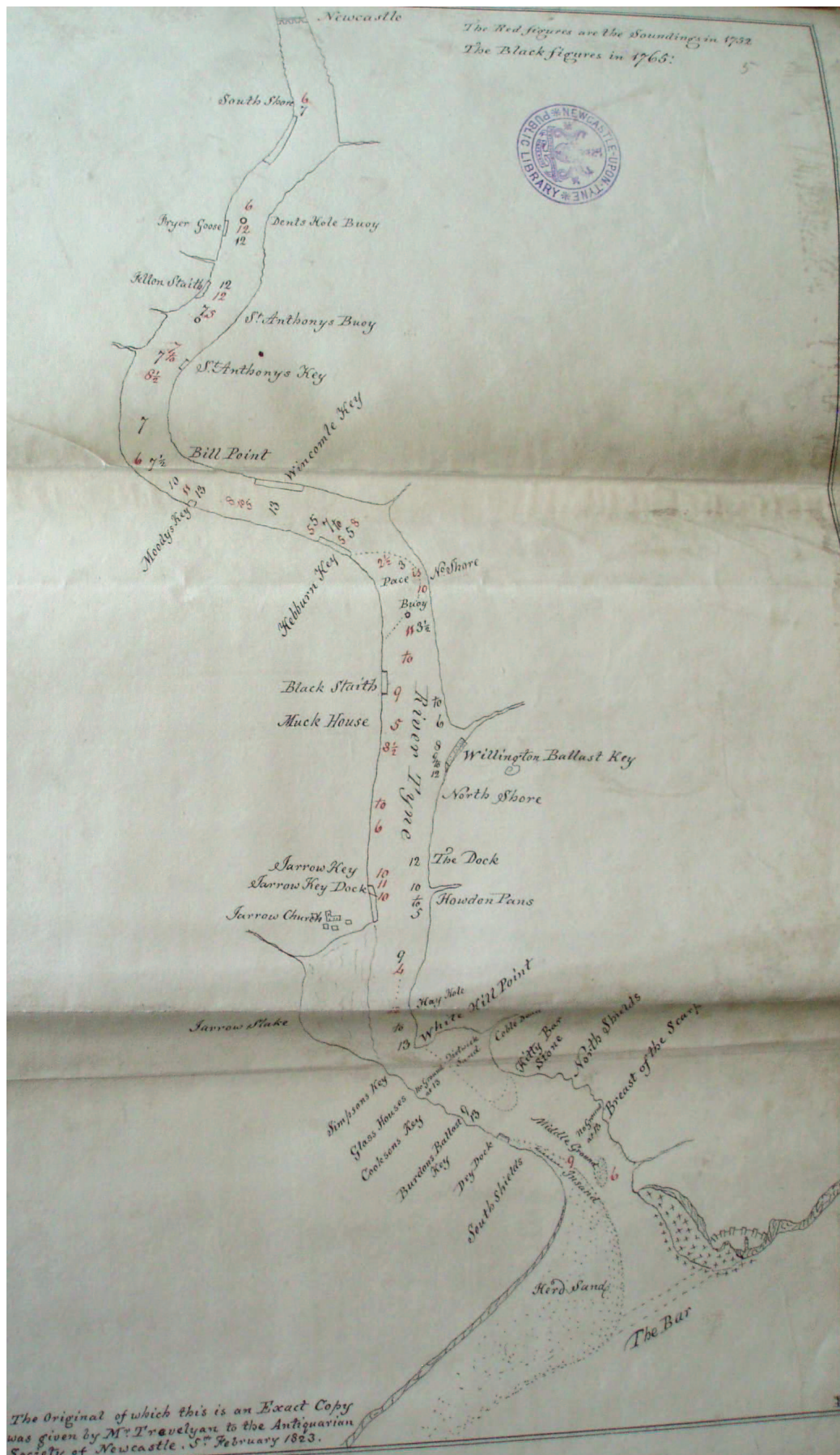


Figure 1.5 Map of the Tyne 1765

at South Shields. Of particular significance, there was no sign of any salt pans being marked, possibly indicating the demise of the coastal salt industry which was occurring during the eighteenth century.⁶⁸

1.2.5. *The South East Prospect of Newcastle upon Tyne, by Samuel and Nathaniel Buck.*

This engraving (Fig. 1.6) was one of a large series published by Samuel and Nathaniel Buck in 1745. The Buck brothers were born near Richmond in Yorkshire, Samuel (1696-1779) was the first to become an engraver, moving to London in the 1720s and becoming an active member of the Society of Antiquaries. His first series of engravings of 'Prospects' of a number of Northern cities were published between 1720 and 1725. In 1724 Samuel's brother Nathaniel (d. 1759) was first mentioned although the date of his birth is unknown. The two brothers worked together producing a very large number of engravings of many cities and castles across the country until Nathaniel died in 1759 following which Samuel continued on his own account. They produced a number of collections of prints of their engravings which they sold from their house in Garden Court, Middle Temple, London.⁶⁹ The picture of Newcastle upon Tyne shown in the Buck print, particularly when viewed together with a contemporary map of the Town, by Corbridge engraved for Reverend Henry Bourne for his book in 1736 (Fig. 1.7)⁷⁰, gives a very clear portrait of the city in the mid eighteenth century. The picture gives a rather stylised view of the city from the South East which is not entirely to scale, but manages to show most of the significant buildings, particularly the castle and the main churches, together with the most important civic buildings along the waterfront. The picture clearly shows the extensive quayside between the city walls and the river together with the two cranes it was reputed to have. The scope of the picture extends from Elswick in the West across to the Keelmens' Hospital and the edges of the Ouseburn Valley in the East and North towards the edges of the Town Moor. There is relatively little to see of the south bank and Gateshead, other than some buildings adjacent to the south end of the Tyne Bridge.

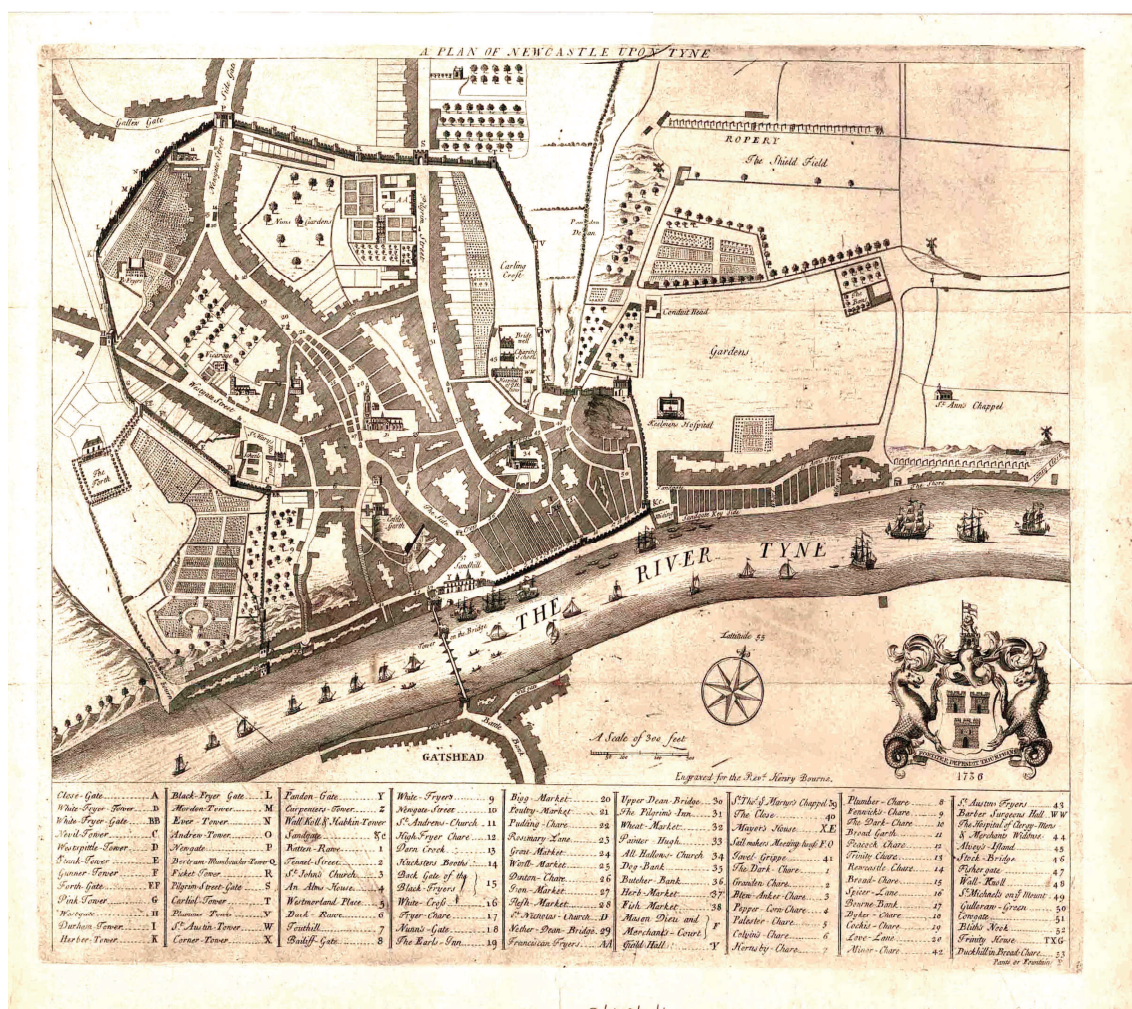
⁶⁸ Ellis, 'The Decline and Fall of the Tyneside Salt Industry', 45-58.

⁶⁹ Ralph Hyde, 'Buck, Samuel (1696-1779)', *Oxford Dictionary of National Biography*, (Oxford: Oxford University Press, 2004), <http://www.oxforddnb.com/view/article/3850>, accessed 28th Jan. 2011.

Ralph Hyde, 'Buck, Nathaniel (1724-1759)', *Oxford Dictionary of National Biography*, (Oxford: Oxford University Press, 2004), <http://www.oxforddnb.com/view/article/67827>, accessed 28th Jan. 2011.

⁷⁰ Corbridge Map of Newcastle upon Tyne 1736, TWAM D/NCP/2/6

The picture is very illuminating as it provides clues not just to the quantity of river and seagoing craft but also their variety. Above the bridge four keels carrying coal are clearly seen, each having three crew rowing, and a helmsman, most probably the skipper. In the centre of each keel can be seen the coal piled high being taken down the river to awaiting collier ships. In the centre of the river above the bridge there is what appears to be the Newcastle Mayoral Barge, which has been well described elsewhere.⁷¹ At the bridge itself we can see a single keel passing through the second arch from the Southern end. Below the bridge there is considerably more activity, including eleven keels loaded with coal being rowed and three keels with square sails similarly loaded all travelling down river. In addition to these smaller craft there are three sailing ships of different sizes sailing on the river.



Perhaps the most illuminating aspect of the picture is the view of the quayside, which appears to be bustling with activity, particularly around the cranes. There are no fewer than eighteen ships tied up at the quay, in places three or four abreast, these were probably 'Cats', eight or nine of which appear to have three masts (Frigate rig), and the remainder two masts (Snow rig). They appear to vary in size, but are likely to have been between 80 and 110 feet in length 100 to 180 tons burden and drawing 12 to 15ft. In addition to the sailing ships there were also a number of small rowing boats tied up at the quay, almost certainly for local use. The picture probably represents a realistic view of Newcastle and its quayside in the mid-eighteenth century as there is no plausible motivation for the Buck brothers to portray the city other than as they saw it, which would suggest that the number of boats and ships illustrated in the picture represented reality. The only feature that might cast doubt is that there is no evidence of any coal pits or other industrial activity anywhere in the picture when we know that there were pits and other related industries all around Newcastle at the time. However on balance, the aim of the Buck prints was mainly to illustrate towns and buildings and it may be that they considered that industrial detritus might detract from the views they were attempting to convey.

1.3 Conclusion.

This chapter has provided a picture of the social and economic background to Newcastle and the communities along the lower river Tyne during the seventeenth and eighteenth centuries, and provided the context for the remaining chapters in this thesis. The growing size of the population paralleled the progressive growth in the coal trade as the demand from London and elsewhere stimulated the market in Newcastle and its hinterland. The position of Newcastle on the Tyne and close to the North East coast facilitated the development of a trading community which was focussed on the seaborne transport of coal both to the remainder of England, to northern Europe and elsewhere. This community had a number of features unique to the Tyne, due to the limited navigability of the river fostering a community devoted to both managing and undertaking the transport of coal from riverside staiths to collier ships waiting close to the mouth of the Tyne. The impact of these changes on the river itself and its surrounding communities are illustrated in a number of contemporary maps and engravings.

These maps, charts and prints provide us with quite detailed information about the development of Newcastle and the River Tyne as a trading port during the seventeenth and eighteenth centuries. Not only do they tell us how the different communities were expanding during this period, but they also indicate a change in the balance of trades showing the reduction of the importance of salt production by the middle of the eighteenth century. The information provided on the changing navigability of the river over the years as well as quite remarkable detail about the size and hence capacity of the shipping reaching as far as Newcastle quayside, tend to support the size and variety of both coal and general trade shown in the Port Books of the time, and emphasise the importance of Newcastle as a maritime trading centre. Having established the economic and geographical environment in which Newcastle and the communities along the lower reaches of the river were developing during the seventeenth and eighteenth centuries, we can now move on to examine the population and community structure of the region.

Chapter Two

Structure of the Water Trades Community on the Lower River Tyne.

The evolution of the communities of water-based tradesmen along the lower River Tyne in the seventeenth and eighteenth centuries reflected the rapid development of trade, particularly the export of coal and other commodities, balanced by an increase in the import of foodstuffs and other consumables. Although coal was the most prominent commodity to be shipped from the Tyne, there were a wide variety of other exports and imports, many of which were a reflection of the wealth generated in the region by the sale of coal to other parts of England and Europe. The local use of coal as an energy supply also encouraged the development of other industries such as glass making and iron smelting and its related trades. At a time when overland transport of significant volumes of material was limited by the road system, access to coastal and overseas water transport by way of the River Tyne, was essential to the continuing development of Newcastle as a major centre of trade. The consequence of the position of the town on the river, and the trade that developed as a result of a hinterland rich in coal, was that a community of water tradesmen developed whose role was to transport coal and other commodities from Newcastle and its surrounding areas to the mouth of the Tyne, where it could be loaded onto larger ships for onward transport. These water tradesmen were the key to the success of the Tyne as a trading river and consequently the fluctuations in the volume and mix of trade on the river might be expected to have had an impact on the lives and work of the water tradesmen and the communities associated with them. This chapter explores that water trades community, and using the available evidence from surviving primary sources attempts to assess the size and composition of the community and the extent and nature of its growth through the seventeenth and eighteenth centuries.

Newcastle was one of many significant Western European port towns and cities in the early modern period. These served as a focus for the development of working and trading communities dependent on the inward and outward flow of commodities to other countries and ports throughout Europe and the rest of the known world. Richard Lawton and Robert Lee explored many of the social and demographic aspects of port cities across Western Europe, none of which were the capitals of their respective

countries, a role which in itself would inevitably have had a substantial influence on growth and development. Many of these characteristics, related to rapid population growth, can be found in Newcastle and the communities along the river Tyne during the seventeenth and eighteenth centuries.¹ These features were also displayed in other port cities in England, Scotland and Ireland such as Hull, Bristol, Liverpool, Glasgow and Cork.² This thesis will concentrate upon the complex relationships which existed, particularly in Newcastle, between the coal trade and trade in other commodities during this period of rapid growth and development.

Although water trades communities were distributed along both banks of the lower Tyne, during the seventeenth and eighteenth centuries³ the largest concentration was based at the east end of Newcastle 'keyside' in Sandgate. This area was notable for its squalor and poverty, as described by Defoe in 1724.⁴ Sandgate lay within the Parish of All Saints, for which many contemporary records survive, providing the opportunity for a case study of the evolution of this part of the working population along the river.

There are a variety of secondary sources of information about the water trades communities along the Tyne which tend to give conflicting information about the size and development of the sector, and the extent to which migration from Scotland and surrounding counties of Northern England contributed to its growing population. These secondary sources will be reviewed to give an overview of the state of knowledge up to the present time, following which a new approach will be employed using a variety of different techniques to re-evaluate existing primary sources of information. These

¹ Robert Lee and Richard Lawton, 'Port Development and the Demographic Dynamics of European Urbanisation', *Population and Society in Western European Port-Cities, c. 1650-1939*, ed. R. Lawton and R. Lee, (Liverpool: Liverpool University Press, 2002), 1-36.

² R. Davies, *The Trade and Shipping of Hull 1500-1700*, (Hull, East Yorkshire Local History Society: 1964); D. Hussey, *Coastal and River Trade in Pre Industrial England, Bristol and its Region 1680-1730* (Exeter: Exeter University Press, 2000); Michael Stammers, 'Ships and port management at Liverpool before the opening of the first dock in 1715', *Transactions of the Historical Society of Lancashire and Cheshire*, 156 (2007), 27-50; Andrew Gibb, 'Industrialisation and Demographic Change: A Case Study of Glasgow, 1801-1914', *Population and Society in Western European Port-Cities, c. 1650-1939*, ed. R. Lawton and R. Lee, (Liverpool: Liverpool University Press, 2002), 37-73; Richard Lawton, 'The Components of Demographic Change in a Rapidly Growing Port City: The Case of Liverpool in the Nineteenth Century', *Population and Society in Western European Port-Cities, c. 1650-1939*, ed. R. Lawton and R. Lee (Liverpool: Liverpool University Press, 2002), 91-123; John O'Brien, 'Population Society and Politics in Cork from the Late-Eighteenth Century to 1900', *Population and Society in Western European Port Cities, c 1650-1939*, ed. R. Lawton and R. Lee (Liverpool: Liverpool University Press, 2002), 326-346.

³ Levine and Wrightson, *The Making of an Industrial Society*, 221, 230.

John Langton, 'Residential patterns in pre-industrial cities: some case studies from seventeenth century Britain,' *Transactions of the Institute of British Geographers* 65 (1975) 1.

⁴ Defoe, *A Tour Thr'o the Whole Island of Great Britain*, 659.

approaches include a reassessment of the published data on annual coal exports during the seventeenth and eighteenth centuries from the perspective of evaluating how many keels and keelmen would have been required to accomplish the known levels of coal exports. Other sources including parish registers and documents from local archives that illustrate the evolution of the water trades communities are assessed for evidence about the nature of any change in size of the population both of All Saints parish and the water trades community within it. Inward migration has always been thought to be a contributory factor to population growth, and where possible the contribution of migration to the community is examined. Additionally, the place of the water trades in the occupational profile of the parish of All Saints as a whole will be evaluated.

2.1 The Development of Water Trades on the Tyne: A Historiography.

Newcastle upon Tyne, like London and many provincial cities in England in the seventeenth and eighteenth centuries, underwent a period of prolonged and progressive expansion (Table 2.1). London was the most dramatic example of a growing city in England, the bulk of its expansion coming from migration from surrounding counties, but unlike many other provincial cities, London had a higher incidence of migrants from further afield who, in general, were better qualified. Ellis emphasises the magnitude of the migration of young adults into larger towns, particularly London and the port cities, where such migration had a strong female predominance, and in some cities between 60% and 80% of the population were migrants.⁵

⁵ Ellis, *The Georgian Town*, 28; David Souden, 'Migrants and the population structure of later seventeenth-century provincial cities and market towns', in *The Transformation of English Provincial Towns 1600-1800*, ed. P. Clark (London: Hutchinson & Co., 1984), 133; Penelope Corfield, 'A provincial capital in the late seventeenth century: the case of Norwich', in *Crisis and Order in English Towns 1500-1700*, ed. P. Clark and P. Slack (London: Routledge, 1972), 233; E.J. Buckatzsch, 'Places of origin of a group of immigrants into Sheffield 1624-1799', *Economic History Review*, 2nd Series, 2 (1949), 292.

<u>Year</u>	<u>Newcastle Population.</u>
1560	10,000 ^a
1600	10,000 ^b
1665	10,800 ^c
1670	12,000 ^d
1700	16,000 ^e
1736	20,000 ^f
1750	29,000 ^g
1801	28,294 ^h
1831	53,613 ⁱ

Sources: ^a S. Middlebrook, *Newcastle upon Tyne, Its Growth and Development*. (Newcastle: Newcastle Journal, 1950) 63;

^b Wrigley, 'Urban Growth and Agricultural Change', 686-687;

^c R. Welford, 'Newcastle Householders in 1665. Assessment of Hearth or Chimney Tax', *Archaeologia Aeliana*, Series 3, 7 (1911) 49; Langton, 'Residential patterns in pre-industrial cities', 1; T. Arkell, 'Multiplying factors for estimating Population totals from the Hearth Tax', *Local Population Studies*, 28 (1982) 51;

^d Wrigley, 'Urban Growth and Agricultural Change', 686-687; See also Table 1.1 in Chapter 1, derived from the same source, where the size of Newcastle is related to that of other towns in England.

^e Ibid., 686-687.

^f Middlebrook, *Newcastle upon Tyne*, 116, quoting H. Bourne, *History of Newcastle*, from 1736.

^g Wrigley, 'Urban Growth and Agricultural Change', 686-687

^h Middlebrook, *Newcastle upon Tyne*, 150, providing separate figures for Newcastle, Gateshead and Sunderland from the 1801 National Census; Wrigley, 'Urban Growth and Agricultural Change,' 686-687. This gives a much higher figure of 42,000 which also includes Gateshead, also derived from the 1801 National Census.

ⁱ Middlebrook, *Newcastle upon Tyne*, 175. Derived from the 1831 census.

Table 2.1 Population of Newcastle between 1560 and 1831

Evidence about the size of the population of Newcastle upon Tyne in the seventeenth century comes from studies of Hearth Tax returns. Welford estimated from the Hearth Tax returns for 1665 that in the 24 Wards of the City there were 2510 households, of which 1472 were liable to pay the Hearth Tax and 1038 were not. On the assumption that each household contained an average of five persons, he estimated the City population at around 12,250, however, Arkell in an analysis of the multiplication factors used to estimate population totals from Hearth Tax returns for all areas outside London, recommended a multiplication factor of 4.3 which gives a lower total than

Welford's estimate, closer to 10,800.⁶ Langton, in a further analysis of Welford's Hearth tax data, related them to data contained in the Newcastle upon Tyne Register of Freemen. He was able to identify the relative wealth of each of the different occupations as manifested by the average number of hearths in their houses, and identifying whereabouts in the town the different trades lived, highlighting the concentration of richer merchant venturers in the areas nearer to the Castle, Guildhall and Quayside.⁷

Another study relevant to the population of Newcastle comes from Levine and Wrightson in their study of early modern Whickham, a coal mining community less than 10 miles from Newcastle (Figs. 0.1 and 0.2, pages 10 and 11).⁸ They showed that the community had undergone a fourfold increase in the number of households between 1563 and 1666. Associated with this change there was only an initial doubling of the rate of marriages and baptisms up to the first decade of the seventeenth century, following which the rates stabilised, notwithstanding the continuing increase in the size of the population. From 1610 there was a change in the gender ratio at burial from 100 up to 142 by 1639, and after a fall back to 100 in the 1640s, then rose again to 149. These figures are very suggestive of a male dominated population with a very high mortality rate. Levine and Wrightson suggest that these changes are reminiscent of an industrial population rather than a rural community, and also indicate that such population changes could only be maintained by a significant rate of inward migration. To examine migration further, they also used the incidence of new surnames in the parish appearing in the registers, following a method devised by Lasker and Roberts who used changes in surnames in Whickham parish records to calculate a 'coefficient of relationship by isogonomy' as a measure of change in population composition and an indicator of the impact of migration upon the community. They reported that between 1603 and 1628 58.5% of all surnames were new to the parish, with the process

⁶ R. Welford, 'Newcastle Householders in 1665; Assessment of Hearth or Chimney Tax', *Archaeologia Aeliana* Series 3, 7 (1911), 49; Langton, 'Residential patterns in pre-industrial cities', 1; T. Arkell, 'Multiplying factors for estimating Population totals from the Hearth Tax', *Local Population Studies*, 28 (1982), 51-7. Arkell provided a detailed critical analysis of the different methods for calculating household size from Hearth Tax returns, paying particular attentions to the work of Peter Laslett who provided a range of multiplication factors for different household circumstances, the most frequently quoted figure being 4.75. in Peter Laslett 'Mean household size in England since the sixteenth century', in, *Household and Family in Past Time*, ed. P. Laslett and R. Wall (Cambridge; Cambridge University Press, 1972) 1256-158.

⁷ John Langton, 'Residential Patterns in pre-industrial cities: Some case studies from seventeenth century Britain', in *The Tudor and Stuart Town*, 166-205.

⁸ Levine and Wrightson, *The Making of an Industrial Society*, 172; Wrightson and Levine, 'Death in Whickham', 129- 165, 307.

continuing up to 1654.⁹ This rapid influx of manpower by immigration was a reflection of the intensive exploitation of coal reserves with the opening of new coal mines around Whickham during this period.¹⁰ There are references to migrants from Scotland working in the Newcastle and Tyneside area, but other than a number of Scottish surnames appearing in the registers there were few specific references to Scottish migration to Whickham.¹¹

An analysis of the changing population of Newcastle was made by Michael Barke in his paper on the pre-civil registration population of Newcastle between 1700 and 1840.¹² He used parish registers from the four main parishes of Newcastle, All Saints, St Nicholas, St John's and St Andrew's. He points out that a major problem in using such data is that most of these parishes extended beyond the walls of the city and hence calculations based on their registers would include more people than resided within the city walls. It is uncertain from many historical estimates of the population of Newcastle whether the parish boundaries or city walls had been used as their basis. He was able to demonstrate that between 1770 and 1801 there would have been a net reduction in the population of Newcastle if it had not been for inward migration leading to a significant net increase. The source of this new labour force in both Whickham and Newcastle as a whole is less clear. It is likely that the intensification of industrial activity associated with coal-mining was reflected in a proportionate increase in the activity and demand for labour in those trades associated with the export of coal, including the keelmen and watermen working on the Tyne.

Migration of labour to the areas of developing industry around the River Tyne appears different from migration in other parts of England where the vast majority of immigrants into major towns and cities travelled less than 50 miles. Here there is reported to have been a significant migration of labour from the Borders and Scotland into a variety of industries around the Tyne. This would have involved journeys well in

⁹ G.W. Lasker and D.F. Roberts, 'Secular trends in relationship as estimated by surnames: a study of a Tyneside parish', *Annals of Human Biology*, 9 (1982) 299-307. It is interesting to note in their conclusions, that their results indicate that the main increase in population size occurred at a time when there was no decrease in relationship as shown by change in surnames, indicating that, either the attribution of population expansion to migration is erroneous, or that the migration occurred from nearby populations often with surnames similar to those in Whickham.

¹⁰ Levine and Wrightson, *The Making of an Industrial Society*, 178-80; Wrightson and Levine, 'Death in Whickham', 130-8.

¹¹ Levine and Wrightson, *The Making of an Industrial Society*, 186. Levine and Wrightson refer to a shortage of labour in the adjacent parish of Winlaton where 'for lack of workmen, women were employed and there was talk of sending to Scotland for men.'

¹² Barke, 'The Pre-civil Registration Population of Newcastle upon Tyne'.

excess of 100 miles. Houston argues that seasonal migration from the highlands to the lowland cities in the summer was a feature of Scottish life; this could have involved travel over very long distances and difficult terrain. It is possible that the readiness of the Scots to travel long distances for work in Scotland was reflected across the Border by a readiness to travel similar distances for work in the Tyne valley, to a degree following the Union of Crowns in 1603, but probably more significantly after the Union of 1707.¹³

Having established the parameters of growth in Newcastle's population, we can now turn to an estimate of the size of a sector of the population directly involved in the booming coal trade, that of the water tradesmen who were involved in the transport of the coal from the staiths along the Tyne to the waiting colliers close to the mouth of the river. The size of the water tradesmen's population has been the subject of various estimates in eighteenth and nineteenth century literature, however many of these estimates seem to be based on anecdotal reports rather than any form of census or head count. Welford provides one of the earliest quotations, which he says was undated, but which he lists as originating from 1637:

There is in Newcastle upon Tyne, of keelmen, watermen and other labourers, above eighteen hundred able men, the most of them being Scottish men and Borderers which came out of Tynedale and Riddesdale. By reason of the stop of trade occasioned (by) cross winds this year, they have wanted employment, and are thereby in great necessity, having most of them great charge of wives and children. And unless they have employment, they must be relieved by the charity of others. ... the inhabitants of the town, many of whom are so poor that they are scarcely able to maintain themselves, or else we doubt that, in regard of their necessity and rude condition, they will be in danger to assemble themselves and make an uproar in the town.¹⁴

In a review of the labour conditions in the coal industry Hughes refers to the seasonal nature of both coal mining and the transport of coal to the ships by the keels, and indicates that it was not just the inclement winter weather that prevented ships from sailing, but the additional effect of cold weather on the coal itself led to ice breaking up the larger pieces of coal into small pieces which were more difficult to sell. In addition the roads and waggon-ways became more difficult to maintain during the wet winter months making the transport of coal to the riverside staiths more difficult.¹⁵ Moller, in

¹³ Houston, *The Population History of Britain and Ireland*, 58.

¹⁴ Welford, *History of Newcastle and Gateshead*, 348.

¹⁵ Edward Hughes, *North Country Life in the Eighteenth Century*, (London: Oxford University Press, 1952), 251.

his thesis, observes that it was a custom to land keels in the winter for an annual overhaul in readiness for the re-opening of the season in May. This was a process designed to prolong the life of the keels, which could be as long as fifty or sixty years in the mid-seventeenth century.¹⁶

The use of keels by the authorities in the City for clearing the river of wrecks is recorded in the Orders and Minutes of the Hostmen for 19th September 1655:

Ordered that everie Brother and Sister of this Companie who from and after The Makinge of this present Order shall have any of their Keeles pressed or taken for the weighing of wracks as aforesaid, shall in recompence for everie keele Three shillings and foure pence cleere for everie Tide for and duringe so longe time such keele shall be used and imployed as aforesaid.¹⁷

It would appear the use of keels in this manner would include the use of the crews, without which the work would not be possible, and it is clear from other entries that the compensation was partly in response to a degree of damage that the keels sustained in this work. This work was referred to by Hughes, who noted, that in view of the hardship that a seasonal lay off caused to the water related tradesmen, ... 'it was stated in 1723 that Newcastle had employed keelmen during the slack winter months in taking sand and removing wrecks from the river with a view to improving navigation, but that in recent years this had been discontinued'.¹⁸

Dendy, amongst his extracts from the Orders and Minutes of the Company of Hostmen under a date of July 1707 includes a reference to an 'Instrument drawn up by William Storey, Scriviner, on the Order of Several of the Skippers and Keelmen of this Town'. He then presents a transcript of this document entitled 'The case of the poor Skippers and Keelmen of Newcastle', which he indicated came from 'Mr Welford's collection of local documents'. The first paragraph states: 'that the said poor Skippers and Keelmen, being in number about 1,600 men besides women and children, for many years past have suffered great misery and distress, and were exceedingly burthensome

¹⁶ A.W.R. Moller, 'The History of British Coal Mining, 1500-1750', Unpublished D.Phil thesis, Oxford 1933, 552;

Dendy, 'Company of Hostmen', 108.

¹⁷ Ibid., 107.

¹⁸ Hughes, *North Country Life*, 251.

on the parishes where they lived'.¹⁹ In a subsequent document from the Welford collection under the same date entitled 'A farther case relating to the poor Keelmen of Newcastle', which related to a petition from the keelmen about the mismanagement of the keelmen's charity it is stated that: ... 'it is well known the whole number of Keelmen is within 1600, near one thousand whereof have put their hands to this petition, 400 are them are yet in Scotland whither they go always in the winter to their families'.²⁰ In 1770 the keelmen petitioned the House of Commons for a bill to extend an existing Society of Keelmen, and among the evidence presented was a statement by their Agent, Thomas Harvey that: ... 'great numbers of the Keelmen employed at Newcastle are natives of Scotland from the mode of binding and hiring and service, are not ... Allowed to gain settlement in the Parish of All Saints where most of them reside'.²¹ A further witness who had worked five years as a keelmen testified that:

1200 keelmen were residing in All Saints parish, half of whom, if not more were Scotsmen, and also that he had never known sick or infirm Scotsmen to be relieved as parishioners, even though they had been employed a great number of years as Keelmen.²²

In contrast in an associated footnote a further witness put the number of keelmen in All Saints parish as between eight or nine hundred.²³

A number of lists of keelmen were published as part of legal proceedings during the strikes which took place throughout the eighteenth century.²⁴ It is probable that these do not represent a complete list of all the keelmen, but only those who were perceived to be guilty of a breach of their conditions of work. As such these lists could not be construed as a realistic basis for the estimation of population size. It is clear that most of these estimates of the population of keelmen and other water trades are somewhat anecdotal and conflicting, with little objective evidence to support them.

¹⁹ Dendy, 'Company of Hostmen', 172; 'The Case of the poor Skippers and Keelmen of Newcastle Truly Stated', (London, 1712?), Eighteenth Century Collections Online. Gale, Newcastle University 2010, Document No. CW3305248783. Accessed June 27th 2009.

²⁰ Dendy, 'Company of Hostmen', 176; 'A Farther Case relating to the poor Keel-men of Newcastle', (London, 1712?), Eighteenth Century Collections Online, Gale, Newcastle University, 2010, Document No. CW3305248785. Accessed June 27th 2009.

²¹ Fewster, 'The Keelmen of Tyneside in the Eighteenth Century, Part I', 28.

²² Ibid., 28-9.

²³ Ibid., 29.

²⁴ Ibid., 24.

The terms and conditions of work for the keelmen on the Tyne were based on an annual bond with their employer the hostman. A single surviving original bond exists in the Bell Collection dating from 28th December 1787, which provides details of the keelmen employed by a single hostman, Anthony Hood.²⁵ This hand-written document is shown in Figure 2.1, and outlines the terms and conditions of work and is signed and sealed by sixty-eight people. In the document nineteen are named separately: ...‘to be and go (as) skippers on nineteen severall keels, coal boats or lighters severally belonging, or to be employed by the said Anthony Hood for the term of one year to be reckoned from this date’. This is followed by the remainder being named as being employed as ‘bound men or shovelmen’ for the same period. The document goes on to state that Hood:

... has given them the said skippers, and to each and every one of them the like sum of twenty shillings apiece for the binding of them and their said men to the said service, and has lent unto the said skippers and each and every one of them the like sum of twenty shillings. If therefore the said skippers ... do and shall on or before the eleventh day of June next ensuing will truly pay or cause to be paid to the said Anthony Hood ... the sum of twenty shillings so lent.

²⁵ John Bell, *Collections Relative to the River Tyne its Trade and the Coservancy, Vol 1, 1603-1800*, The Bell Collection, (NCL/LS) L942.8, T987B, Folio 211.

Figure 2.1 The Bond used by Hostman Anthony Hood to Bind his Keelmen.

The document continues by specifying the details of their work, loading and transporting coal from the staiths to the colliers, including the maximum of eight chaldrons of coal that was to be loaded into each keel.

This example of the keelmen's bond is particularly interesting from a number of different points of view. The nature of the document is likely to have been very similar for many years. The only other surviving bond originates from the nineteenth century and relates to a hostman Nathaniel Clayton and is dated 2 February 1820.²⁶ The terms and conditions in this bond are almost identical to those in the 1787 bond, apart from the fact that the original signatures of the bonded men are not included in the preserved copy. The 1787 bond, shown above, is notable in that it clearly categorises the keelmen and other bound men separately, implying a distinctly different status. The payment of twenty shilling bonding money is supplemented by an additional loan of twenty shillings, which, as the payment is made during the winter implies that it is a supplement designed to assist the keelmen to survive the winter period when trade was quieter with a view to repayment when trade improved in the summer. Throughout the bond the boats the keelmen were to work in were referred to as 'keels, coal boats or lighters' implying that there may either have been a variety of different boats used to carry coal in addition to keels, or that there were a variety of descriptions of such boats in common useage. The use of the terminology that the boats were 'severally belonging or to be employed by' the hostmen suggests that a hostman did not necessarily own all of the keels that he used, but hired or borrowed any additional ones that he required for the volume of his business. In the light of any discussion on keelmen numbers, it is interesting that the bond describes nineteen keels with nineteen skippers and forty nine bound men as crew which is insufficient to provide crews of four in all of the keels, indicating that the keel crew numbers employed by Anthony Hood varied between two and three men in addition to each skipper.

The closest we get to a realistic estimate of the size of the general population of the parish of All Saints comes from Welford in his paper on Hearth Tax returns in which he includes the returns for the Sandgate Ward in 1665 where there are 644 households listed, of which only 134 were liable to pay the tax and 510 were not, giving, at an average of five persons per household, an estimate of a Sandgate

²⁶ John Bell, *Collections Relative to the River Tyne, Vol 2*, NCL/LS, L942.8, T987B.

population of 3220.²⁷ This could be an over estimate as more recent evidence about multiplication factors for Hearth Tax data suggests household size was closer to 4.3 persons giving a population estimate for Sandgate of 2770.²⁸ Unfortunately these estimates of population size are not as satisfactory as might have been hoped, displaying varying population sizes, complicated by a degree of uncertainty about the particular part of the population the individual authors might have been describing. There is a clear need to establish more precisely the population that is being examined, and use more consistent and reliable measures of population size and changes over time of the water trades. There are a number of other primary sources which provide a valuable insight into the evolution of the water trades along the Tyne in the seventeenth and eighteenth centuries. These include the Parish Registers for all of the parishes surrounding the lower River Tyne. These records are of variable quality and completeness. In addition there is a significant body of original documentary material in the local archives which refers directly to the changing circumstances of trade on the Tyne and into Newcastle, and which clarify many of the pressures which influenced the developing population of water tradesmen and their families during this period of significant change.

Having established the rough parameters of the population, it is now time to turn our attention to its principal economic driver. One of the earliest quantitative references to the coal trade on the River Tyne was in 1367, when the Pipe Rolls, 40th of Edward III, refer to 676 chaldrons of coals purchased from Winlaton for Windsor Castle, 33 keels and one boat were used, 20 Chaldrons to each keel and 16 to the boat. At this time the Newcastle Chaldron weighed about 20cwt, the keels were manned by keelers, paid 6d each with 12d for the hire of each keel, 5 men to a keel and 4 to the boat.²⁹ By 1566 the keels on the River Tyne were built and owned by the same Newcastle merchants who became the colliery owners. At first during the sixteenth century they dealt with the skippers of the keels who undertook the ‘fittage’ (negotiating the sale and transport of the coal between the coal owners and the masters of the colliers), giving the skippers some savings and social standing in the Town, but subsequently this role was taken over by agents or hostmen. Close examination of the documents indicate that although the

²⁷ Welford, ‘Newcastle Householders in 1665’, 49.

²⁸ Arkell, ‘Multiplying factors for estimating population totals’, 51.

²⁹ T. J. Taylor, ‘Archaeology of the Coal Trade’, *Proceedings of the Archaeological Institute of Newcastle upon Tyne*, (1852), 159;

Guthrie, *The River Tyne, its History and Resources*, 18; Charleton, *Newcastle Town*, 324.

hostmen managed the process and had access to enough keels for their purposes, there is little objective evidence as to whether they also owned the keels.³⁰

The measurement of coal depended on the use of the Newcastle Chaldron but the precise amount of coal this represented varied, progressively increasing with time. In 1421 it weighed as little as 18 cwt, by 1566 it had increased to 30 cwt, and then to 52.5 cwt by the beginning of the seventeenth century, where it stabilised.³¹ The amount of coal carried by a keel had been standardised because the crown raised taxes from the coal exported from the Tyne. As a result the keels that carried the coal from the coal staiths to the colliers, moored towards the mouth of the river, were marked so that they carried a standard weight of 8 Chaldrons which amounted to 21 tons per keel. The term 'keel' was sometimes used as a quantitative term for this measure of coal. This allows us to compare data from differing sources about the export of coal from the Tyne in terms of tonnage, also enabling us to compute the potential number of keel trips required and the manpower, based on a crew of a skipper and two (or three) crew members. In 1602 the Hostmen's records show that during that year there were 29 hostmen divided into four groups or 'quarters' who would move 190,680 tons of coal in 85 keels.³² This represents at 21 tons per keel load, 9080 keel loads, which is equivalent to 107 trips in each of 85 keels during that year. At an average of 3 crew in each keel, this implies a pool of at least 255 skippers and keelmen in 1602.

In 1604-5 the Hostmen's records outline the serious problems being encountered in the coal trade. It would appear that a significant number of 'unauthorised persons' were conspiring with the keepers of the keels, and without the knowledge of the owners of the keels, to load and sell coal to the ships in the Tyne secretly, and without a record being kept, and by implication without taxes being levied. The response of the 28 hostmen and those merchants listed was to appoint 8 'factors and book-keepers in general' to deal with the selling of coal to the ships on behalf of the hostmen. One of these men possibly appears in the list of those admitted as members of the Hostmen's Company.³³ The hostmen then allocated 95 of the keels that they owned between them, distributing them amongst the book-keepers/factors, with instructions that the sales of

³⁰ Nef, *The Rise of the British Coal Industry, Volume I*, 440.

³¹ Ibid., *Volume II, Appendix C*, 368. The interpretation of published data is confused by the fact that the Newcastle Chaldron was almost twice the weight of the London Chaldron, by a ratio of 217:136; Hatcher, *The History of the British Coal Industry*, 483-500.

³² Charleton, *Newcastle Town*, 325; Dendy, 'Company of Hostmen', 44.

³³ Ibid., 265-84.

coal should be distributed evenly amongst the keel owners. The hostmen then appointed six of their number to act as 'surveyors' to supervise the work of the book-keepers, hiring and firing them as necessary depending on their performance. In addition the surveyors would visit every one of the coalworks involved in the scheme to monitor progress every 7-14 days. This account indicates a more complex hierarchy; the hostmen being the coal owners and surveyors, with the book-keepers/factors being employees from a very early stage.³⁴

As has been shown earlier, we have good estimates of the coal exports from the River Tyne between 1606 and 1700, which have been critically analysed and published by John Hatcher, with coal exports increasing from 300,232 tons in 1606 to 518,483 tons by 1700, with a proportionate increase in the number of keels and keelmen.³⁵ From 1700 to 1790 the coal exports increased further up to 1,150,350 tons.³⁶ The computation of the number of keels required to move the coal, based on the data from 1602 suggested that the average number of trips made each year by a Tyne keel, on the basis that a keel held 21 tons (8 Newcastle Chaldrons), was 107. In addition the keel was crewed by a skipper and either two or three crewmen.³⁷ This appeared to continue until 1634 when an interesting statement is made in the Hostmen's records, that it was wasting keel time to take coal to Shields, and that ships would have to come up the river to a place above Bill Point to load at least half their coal.³⁸ Previously ships had been able to load coal above Ouseburn, but now, by the end of this period, the larger ships needed loading at or around Shields, meaning twice the number of keels were required with increased damage and loss of keels due to the greater distances covered in a longer time, and the increased risk of damage to the keels and loss of life from the high seas and weather encountered towards the mouth of the river. This resulted in an increase in the rates of keel rent and a doubling of keel numbers, which would have resulted in a reduction of the average number of trips made by a single keel to around 55 in a year.³⁹ We have shown that a detailed list exists of the amounts of coal shipped coastwise from 1606 to 1710, and both coastwise and overseas from 1723 to 1786, which enables us to provide an estimate of the changing number of keels and keelmen at intervals between

³⁴ Ibid., 51-55

³⁵ Hatcher, *The History of the British Coal Industry*, 497.

³⁶ Dendy, 'Company of Hostmen', 260.

³⁷ Evidence for the number of keelmen in a keel varies between three and four, in a variety of sources implying that it was not a fixed number and probably varied from time to time.

³⁸ Dendy, 'Company of Hostmen', 74.

³⁹ Ibid., 107.

Year	Newcastle. ^a	Coal Exports. (Tons)	Keels.	Keelmen. ^b	Keels (From Literature)	Keelmen
1560	10,000					
1602		190,680	85	255 - 340		
1610		300,232	132	396 - 528		
1630		349,935	156	468 - 624		
1665	10,800	484,447	419	1,257 - 1,676		
1670	12,000					
1671		439,563	381	1,143 - 1,524		
1700	16,000	518,483	449	1,347 - 1,796		
1704		525,489	455	1,365 - 1,820	400	1,500 ^c
1707		558,095	483	1,449 - 1,932		1,600 ^d
1709					338 ^e	
1710		445,239	385	1,156 - 1,540		1,600 ^f
1736	20,000	787,966	682	2,046 - 2,728	688	2,064-2,752 ^g
1750	29,000	752,727	652	1,956 - 2,608		
1760		748,667	648	1,944 - 2,592		
1790		1,150,350	996	2,998 - 3,984		
1801	28,294					

Sources: ^a Newcastle population as shown in Table 2.1, Keel numbers calculated from coal export figures shown in Chapter 1, Table 1.2, assuming a keel held 8 chaldrons or 21 tons of coal, and undertook an average of 107 trips per keel per year up to 1634, and an average of 55 trips each year thereafter. The figures closer to 1800 are probably an overestimate because other methods of loading coal into ships were beginning to be used after 1770 including coal chutes directly into colliers.

^b Figures shown assume a keel crew ranging between 3 and 4, applies throughout Table 2.2.

^c Charleton, *Newcastle Town*, 325.

^d Dendy, 'Company of Hostmen', 176. 'A Farther case of the poor keelmen'.

^e Flinn, *The History of the British Coal Industry*, 168, Heslop MS article NEI Misc 60/ZA/3a, Bell and Coatsworth Papers.

^f Fewster, 'The Keelmen of Tyneside', 28.

^g Bourne, *The History of Newcastle upon Tyne*, 159. This provides an estimate of keel numbers, after which the numbers of keelmen have been given as a range depending on 3 or 4 keelmen.

Table 2.2 Estimated Populations of Newcastle, Keels and Keelmen from Coal Exports

1606 and 1786, and compare them with estimates that appear in the secondary literature. (Table 2.2). There is the opportunity to compare the figures for coal shipments from Newcastle included in the Hostmen's records by Dendy, with those presented by Willan based on Newcastle Port Books⁴⁰, and also those shown by Nef and Hatcher⁴¹ who used a combination of figures from Dendy, the Port Books and a number of other sources. It is interesting to note that the figures for 1683 are identical in these sources at 210,972 Newcastle Chaldrons or 553,751 tons. Both sets of figures from Dendy and Willan are stated to be coastwise figures only. A similar comparison in 1731 show that the figure provided by Dendy is for both coastwise and overseas at 311,278 Chaldrons, (824,886 tons), whereas Willan's figures for coastwise shipments alone are 280,353 Chaldrons (735,926 tons), 10% less than Dendy's estimates of the total shipments, which is probably a reasonable estimate of the proportions of coastal to overseas shipments for the same year⁴², a discrepancy which suggests overseas shipments of 30,925 (81,178 tons). Nef has attempted to correct the overall figures by obtaining data from the relevant Port Books to calculate the overseas shipments and consequently the total shipments for the year.

Further comparisons with estimates of keel numbers in the Hostmen's records with those made by other authors can be found. Bourne wrote in 1736 that there were 400 keels and 1500 keelmen in 1704,⁴³ and Charleton quotes identical numbers which although unreferenced, are likely to have been quoting Bourne.⁴⁴ This estimate comes pretty close to our computation from the Hostmen's records indicating 455 and 1365 respectively. Flinn reported that between 1709 and 1719 there were said to be 400 keels, but more precise accounts indicate 338.⁴⁵ Although the data was deficient in the Hostmen's records for 1709, the figures for 1710 were 385 and 1156 respectively. In addition Bourne wrote that in 1736 'Coal was shipped at 300,000 chaldrons a year, also vast exports of grindstones, salt, lead and salmon'.⁴⁶ This equates to 795,000 tons of coal, 688 keels and 2064 keelmen. The equivalent Hostmen's record for that year indicates 297,346 chaldrons or 787,966 tons of coal, 682 keels and 2047 keelmen. All of these comparative figures tend to suggest a high degree of consistency in the

⁴⁰ Willan, *The English Coasting Trade*, 210, TNA, Exch.K.R. Port Books 200/15.

⁴¹ Nef, *The Rise of the British Coal Industry, Volume II, Appendix D*, 388; Hatcher, *The History of the British Coal Industry*, 497

⁴² Willan, *The English Coasting Trade*, 211, TNA, Exch.K.R. Port Books 236/7.

⁴³ Charleton, *Newcastle Town*, 325.

⁴⁴ Charleton, *Newcastle Town*, 325.

⁴⁵ Flinn, *The History of the British Coal Industry*, 168.

⁴⁶ Bourne, *The History of Newcastle upon Tyne*, 159.

estimates of keel and keelman numbers, which give us some confidence in their validity. It is, however interesting to note that the close similarity between our estimates of keel numbers and the number of keelmen and those in the literature depend on the keels being crewed by only three men. This is somewhat at variance with the evidence for crews of four manning each keel which has been suggested by a number of authors and also as they appear in a number of contemporary artworks. In view of this a range of values for the numbers of keelmen have been shown in Table 2.2. The issue of keelmen numbers is further complicated by the reports that indicate that the keel crew often included a boy,⁴⁷ whether this was a member of a skipper or keelman's family or another employed child is uncertain. The keelmen were never able to form themselves into an incorporated company and were thus unable to take formal apprentices, however it is possible to speculate that, in the light of the powers of the parish overseers and justices to 'bind out' poor children into apprenticeships, poor children were indeed deployed to work on the keels in a form of quasi apprenticeship.⁴⁸

⁴⁷ Brand, *History and Antiquities*, 261-2. Brand notes that the labourers working the keels were also known as keel-bullies, and quotes Stukeley as saying that there were three keelmen and a skipper to a crew, but also quotes Pennant as saying that the crew consisted of a skipper, one man and a boy. He also notes that the wives and daughters of the keelmen were used to sweep the keels and to keep the sweepings for their pains. The women were known as keel-deeters. At the time 'to deet' meant to sweep or keep clean.

⁴⁸ Richard Burns, *The Justice of the Peace and the Parish Officer*, Vol 1, (London, Printed by W. Strahan and M. Woodfall for T. Cadell 1772), 54-92.

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Contemporary evidence for the number of bound men comes in a further document in the Bell Collection which is a notice dated ‘Newcastle, April 28th 1750’, printed at the time of a keelmen’s strike (Fig. 2.2), which reads as follows: ‘Sir, Above is a list of the keelmen which are bound to us; and we desire that you will not employ any one of them in any work or service whatsoever; for if you do we shall call upon you for such satisfaction as the law will give us’.⁴⁹ This notice is preceded by a very long list comprising the names of over eight hundred keelmen, and followed by the names of twenty five hostmen. This list of hostmen is particularly interesting in itself, in that it includes the names of three women, and also includes William Jefferson, whose apprentice Ralph Jackson is considered in some detail later in this thesis with respect to his diary. It is notable that the list of keelmen amounted to only just over eight hundred, when the calculated number of keelmen shown in Table 2.2 for 1750 was between 1,900 and 2,600. It might be speculated that the list of hostmen adding their names to the notice represented only a limited proportion of those hostmen who were active at the time. However we are able to gain an insight into the number of active hostmen at the time by using the Newcastle Chamberlains’ Accounts in which the names of the hostmen were entered each time they cleared a ship loaded with coal through the process of paying the local coal taxes.⁵⁰ Figures from the Accounts for 1756 showed that there were the names of twenty-two hostmen entered, most of whom were represented among the signatories of the notice. This implies that the list does indeed represent most of those hostmen who were active at the time. There are a number of possible reasons for this discrepancy, firstly lists of keelmen made out during a period of industrial unrest in 1740 not only listed by name the keelmen working for each hostman, but also identified that for some hostmen at least one of the crew was not a bound man but a free man.⁵¹ Secondly there is inevitably an element of uncertainty about the exact number of keels, which for 1750 were estimated at around 650, and it is possible that the eight hundred names were those of bound skippers rather than shovelmen. This is perhaps a more plausible explanation as if there were indeed only eight hundred keelmen this would enable only 265 keels to be worked, which is far too few to move the coal that we have good evidence was indeed transported.

In 1711 William Cotesworth (1668-1726) and 5 other coal owners formed what they described as ‘The Regulation’, which was designed to control and regulate the coal

⁴⁹ John Bell, *Collections Relative to the River Tyne, Vol 1*, NCL/LS, L942.8, T987B, Folio 4.

⁵⁰ TWAM MD.NC/FN/1/1/108

⁵¹ Keelmens’ Papers, TWAM GU, 394/11

trade and maximise their profits. They re-measured the keels used by the regulation and marked them with a 'scrivening' iron, then sent agents to accompany them down to the ships to make sure the keelmen did not throw the coal overboard, and properly loaded the coal into the ships. They reduced the number of keels so that for every 100 keels used previously, they used only 92. They employed a total of 260 keels for the year, making sure that they were fully used delivering approximately 300,300 tons of coal.⁵² If these figures are compared with those found in the Hostmen's records for the nearest year 1710 we find that the total export figure for the Tyne was 445,239 tons, indicating that 'The Regulation' only provided 67% of the coal exported that year.

Throughout eighteenth century there were continual disputes between the coal owners, the keelmen and the masters of the colliers, and also with the purchasers of the coal, mainly in London. This resulted in the formation of a number of 'combinations' at every level in the trade, with many strikes, and refusals to transport coal.⁵³ Notwithstanding this turbulence it is clear from the figures of coal exports in the Hostmen's records that there was a continuing increase in the volume of coal exports throughout the period. Towards the end of the eighteenth century and into the nineteenth century the nature of coal transport changed with the increasing use of railways to move the coal greater distances, and coal spouts at the staiths, particularly those below the Tyne Bridge, enabling the loading of coal directly into the colliers without the use of keels. This resulted in a reduction in the number of keels and a weakening of the previously close association between the amount of river traffic and the amount of coal exported.⁵⁴

⁵² Hughes, *North Country Life*, 170-2.

⁵³ Charleton, *Newcastle Town*, 325; Nef, *Rise of the British Coal Industry, Vol 2*, 178-179; Middlebrook, *Newcastle upon Tyne*, 108; Fewster, 'The Keelmen of Tyneside', 28; Fewster, 'The Last Struggles of the Tyneside Keelmen', 5-15.

⁵⁴ Ibid. 1-15; Rowe, 'The Decline of the Tyneside Keelmen in the Nineteenth Century', 110-31.

2.2 All Saints Parish Registers, 1600-1800⁵⁵

Given that we now have reasonably reliable estimates of the number of keels and keelmen operating on the Tyne we can now examine the trade at a more local level. We are fortunate that the parish of All Saints at the East End of Newcastle has particularly full and complete parish registers, including details of occupation in both burial and marriage registers dating back to 1557. There are only a few brief gaps, most notably around 1650. This parish was, during the seventeenth and eighteenth centuries, one of the most important in the developing city of Newcastle as it was the centre of the dynamic coal related water trade that was so fundamental to the economic development of the region and ultimately as the prime energy supplier to London.

Any study using Anglican registers as a tool for studying the population dynamics of a parish or a particular group within a parish requires an understanding of the limitations of parish records. The All Saints parish registers fulfil the criteria as being appropriate for analysis in that they are complete and thus satisfactory. In addition the minimum register size is substantially greater than 100. Extra-parochial registration does not appear to be a problem, but under registration is a significant issue, particularly with diminishing burials in the last 50 years up to 1800, associated with the increasing numbers of dissenters using non-conformist chapels and the use of the un-consecrated Ballast Hills burial ground.⁵⁶

The three types of registers, burial, baptism and marriage all have particular problems. Stuart Basten in his recent PhD Thesis examined the impact of dissent upon the registration practices in Anglican parishes in the North of England, including those in Newcastle, and highlighted the magnitude of the problems arising from the high levels of under registration, particularly in burial registers. These resulted in it becoming almost impossible to make reliable estimates of population size, particularly from burial records, without a very significant use of a variety of adjustment factors, some of which may be of more value than others.⁵⁷ Baptism records under-represent the real number of births during the seventeenth and eighteenth centuries, largely because

⁵⁵ Newcastle City Libraries Local History Section L929.3/N536. All Saints Parish Registers are available in transcription form from the sixteenth century until the late nineteenth century. The parish register data used in this chapter may be found in the CD-Rom associated with Appendix 1.

⁵⁶ Drake, *Population Studies from Parish Registers*, v-xxxiv; Basten, 'Registration Practices in Anglican Parishes'.

⁵⁷ Ibid.,

of the relatively high peri-natal mortality rates which led to many babies who died in the first weeks of life not being registered. This element of under registration was addressed by Wrigley and Schofield who introduced a number of correction factors to rectify this problem.⁵⁸ However Barke in his review of vital registration in Newcastle points out that even after Wrigley's adjustments the estimates seem abnormally low, possibly due to groups in the poorer urban areas who probably escaped any form of registration.⁵⁹ Wrigley, in his analysis of English county populations in the eighteenth century after the introduction of Hardwicke's Act in 1753, points out that the registration of marriages in Anglican parishes became virtually complete making it a more useful parameter for estimation of population dynamics.⁶⁰ Notwithstanding the undoubted elements of under registration that occurred in Newcastle, making accurate calculations of total population size potentially unreliable, Wrigley indicates that, even if it is not possible to derive accurate estimates of population size, estimates of the proportions in which different occupations are distributed in a community may well be significant.⁶¹ In view of these considerations, it is legitimate in this context to regard those registrations which did occur in All Saints as representative of a minimum population size, and as such are worthy of consideration. In addition the *proportions* of those described as working in the water trades are probably valid for the parish population as a whole. This section will examine in more detail the All Saints burial, baptism and marriage registers for any clues they might contain as to the changes in the population of this important Newcastle parish. Such an analysis may also enable us to test changes in the river trades estimated from the overall size of the coal trades illustrated in Table 2.2.⁶²

It is reasonable to expect that the descriptions of the various occupations which appear in parish registers, are those which were supplied by the families of those members of the community whose life events were being recorded. Alternatively they were the descriptions supplied by the parish clerk, which one would expect to be very similar to the names by which the occupations were known at the time. Examination of the occupations listed in the All Saints registers shows a change in the descriptions of the water trades occupations over two hundred years. Parish registers for the fifty years

⁵⁸ Wrigley and Schofield, *The Population History of England*.

⁵⁹ Barke, 'Pre-civil Registration in Newcastle', 7-11.

⁶⁰ E.A. Wrigley, 'English county populations in the later eighteenth century', *Economic History Review*, 60:1 (2007), 35-69; E.A. Wrigley, 'Rickman revisited: the population growth rates of English counties in the early modern period', *Economic History Review*, 62:3 (2009), 711-35.

⁶¹ Wrigley, 'English county populations', 38-9.

⁶² Data from the All Saints Parish Registers was entered into databases, which are shown on the CD-Rom associated with Appendix A.

from 1600 to 1650 show that the water tradesmen were most commonly described as keelmen, who we must assume were those labourers who worked in the keels on the River Tyne. However over subsequent years there is a change (Table 2.3).

<u>Years</u>	<u>Boatmen</u>	<u>Skippers</u>	<u>Keelmen</u>	<u>Watermen</u>	<u>Wherryman</u>	<u>Total</u>
1600-1649	14	44	315	15	33	421
1650-1699	8	109	24	360	12	513
1700-1749	0	0	0	720	80	800
1750-1800	0	0	2	246	27	275

Table 2.3. Water Tradesmens' Occupations from Parish Burial Registers

After the peak between 1600 and 1650 there is a rapid decline in the use of the term 'keelman', with a corresponding rise in the use of the term 'waterman'. In view of these striking changes we must assume that there was a change in the useage of terms used to describe the keelmen, using this more generic title of waterman. Whether this term was used to describe a larger community of water tradesmen of which the keelmen were only a part remains uncertain. Similarly the records indicate that the term 'skipper' was commonly used, almost certainly to describe the skipper of a keel, a term which persists in lists of keelmen prepared by hostmen in 1740,⁶³ even though the term had ceased to be used in the lists of occupations in the parish registers by the beginning of the eighteenth century. From 1700 the term waterman was used to describe around 90% of the water tradesmen, with only two mentions of keelmen in the entire eighteenth century. The term 'wherryman' is present throughout the period studied, representing around 10% of the water trades population by 1750. These were watermen who worked on the wherrys, which were different from the coal carrying keels, being quite possibly smaller and simpler craft.

In the presence of a body of literature apparently describing the origins, work and the lifestyle of the keelmen, it is a little surprising that in the parish records of All Saints, which includes Sandgate ward, where the literature suggest that most keelmen lived, uses the term with decreasing frequency over the seventeenth century, and scarcely at all during the eighteenth century. It is unlikely that this choice of nomenclature was the result of a whim of a particular parish clerk, as this process

⁶³ Keelmens' papers TWAM, GU 394/11

continues over two hundred years and covers the tenure of a number of different clerks. It is notable that the term wherryman persisted unchanged throughout the period.

Accurate measurement of the size of a population in the seventeenth and eighteenth centuries is difficult and requires reference to a source of data, which would be completed by a substantial proportion of the whole population, probably as a legal necessity. In most parts of England such a document would either be a parish register, or a mandatory tax return such as the Hearth Tax. The use of parish burial registers as a tool for the estimation of changes in the size of an urban population is fraught with difficulty, particularly in the presence of variable factors such as under registration associated with poverty and religious dissent. However, notwithstanding these problems, in the absence of more satisfactory sources they have been used with a number of correction factors to estimate changes in population.⁶⁴ As noted by Vanessa Harding, John Graunt and Sir William Petty used parish burial records as a basis upon which to estimate population size in London.⁶⁵ The records from the burial registers in the parish of All Saints are apparently remarkably complete. Table 2.4 shows the data from the registers aggregated into a series of five decadal phases from 1621 to 1770. The use of decadal averages in population studies eliminates many of the errors associated with extreme variations between single years which might occur for a variety of reasons.⁶⁶ From these figures estimates of the population size of All Saints parish were made, after the method of Graunt and Petty, which show an apparent peak in population around the end of the seventeenth century at around 10,000. Caution should be shown over the apparent decline in population during the eighteenth century, which is most likely to be related to the decline in registrations in Anglican parish registers, due to the rise in non-conformism, and burial in un-consecrated burial grounds, which became more prominent in the latter half of the century. These figures for All Saints parish, when compared with the population estimates for the whole town of Newcastle shown in Table 2.1, appear higher than expected, particularly during the seventeenth

⁶⁴ Wrigley and Schofield, *The Population History of England*.

⁶⁵ Vanessa Harding, *The Dead and the Living in Paris and London, 1500-1670*, (Cambridge: Cambridge University Press, 2002), 16-17; John Graunt, *Natural and Political Observations on the Bills of Mortality*. 3rd Ed. (London:1665), 141; Sir William Petty, 'Another Essay in Political Arithmetick Concerning the Growth of the City of London', in C.H. Hull, *The Economic Writings of Sir William Petty*, vii. (London 1899) 459. John Graunt stated that one burial represented 32 living people, and Sir William Petty gave a similar estimate of one burial representing 30 living people. For the purposes of the arguments in this paper we have used an estimate of one burial representing 31 living people.

⁶⁶ L. Bradley, 'An Enquiry into Seasonality in Baptisms, Marriages and Burials, Pt. 1, Introduction, Methodology and Marriages', in *Population Studies from Parish Registers*, ed. Michael Drake (Matlock: Local Population Studies, 1982), 4.

century decades, representing almost three-quarters of the towns population, falling to a much more modest proportion during the eighteenth century. It is likely that this is partly due to a large section of the parish being outside the town boundaries, but may also represent the presence of a large proportion of the town's trade and business activity taking place within the parish boundaries.

	<u>1621-30</u>	<u>1661-70</u>	<u>1691-1700</u>	<u>1731-40</u>	<u>1761-70</u>
All Burials	2834	2952	3148	2824	1822
Av. Annual	283.4	295.2	314.8	282.4	182.2
Estimated All Saints Parish Population size (Burials x 31):					
	8785	9151	10074	8758	5648

Table 2.4 Decadal Patterns for all Burials in All Saints Burials Registers

As shown above, many secondary sources reflect the seasonal nature of the coal trade, and also suggest that many of the keelmen returned to families in the Borders or Scotland for the winter. If this were indeed the case one might expect a relative absence of water tradesmen in winter to be reflected in the monthly burial rates. Table 2.5 shows the decadal monthly patterns of burial of water tradesmen for five decades from 1621 to 1770. There appears no clear seasonal pattern of burials in the first three decades examined, with burials of water tradesmen during the winter usually very similar in number to, or exceeding those in the summer. During the two decades during the eighteenth century however, a clearer seasonality emerges which shows an increase in deaths over the winter and early spring. Although this increase would be an expected seasonal increase in death rate, the fact that there were still water tradesmen remaining in the parish who died, does not seem to support the view that significant numbers of watermen left All Saints in the winter.

Month	1621-30	1661-70	1691-1700	1731-40	1761-70
January	11	6	10	14	8
February	9	5	11	14	10
March	17	8	15	21	10
April	12	3	18	15	3
May	13	5	23	20	7
June	5	8	6	9	10
July	10	8	12	7	6
August	14	5	13	9	7
September	15	8	11	8	8
October	11	6	13	11	3
November	10	8	11	8	5
December	13	11	12	10	2
Total	140	81	155	146	79
Av Annual	14.0	8.1	15.5	14.6	7.9

Table 2.5 Decadal Monthly Patterns for Water Tradesmen in All Saints Burial Registers.

Table 2.6 shows the total burials and burials of water tradesmen, together with those of their families, for single years at approximately 50 year intervals from 1600 to 1800, illustrating some variation from the decadal totals above, particularly during the first half of the seventeenth century, emphasising the benefits of using decadal averages for population studies, to minimise errors due to inter-year variation. The Reverend Emerson, Vicar of All Saints, was so concerned about under-registration in his parish that he arranged for a woman to count the burials in Ballast Hills burial ground for one year in 1800. She found 612 unregistered burials, of which she claimed 466 originated in All Saints, thus emphasising the magnitude of the problems associated with the use of Anglican parish registration. Examination of the Ballast Hills burial registers⁶⁷ however indicates that overall, around 50% of the burials were of people living outside All Saints parish, making a calculation of population size from burial registers even more unreliable. Indeed Emmerson's observer, having counted 466 additional burials of All Saints parishioners in Ballast Hills, made the annual total of burials 637, which would have given a parish population in 1800 of over 19,000. This was clearly a gross

⁶⁷ TWAM Ballast Hills Cemetery Burial Records, 1792-1853 CE. BA (MF).

overestimate as the population of the whole of Newcastle in the 1801 census was shown to be 28,294.⁶⁸

<u>Year</u>	<u>Parish Total.</u>	<u>Water Trades Total.</u>	<u>Percentage.</u>	<u>Est. Parish pop.</u>	<u>Water Trades + Families.</u>
1600	121	17	14	3751	525
1646 ⁶⁹	148	31	21	4588	963
1700	294	64	22	9114	2004
1750	238	55	23	7378	1697
1800	171 (637)	13	8	5301 (19,747)	424

Table 2.6 Burials of Water Trades for Single Years

2.3 Evidence from All Saints Marriage Registers.

The marriage registers in the parish, like the burial registers are almost complete throughout the seventeenth and eighteenth centuries, with the exception of the period around 1650. For most of the period they also contain details of the husbands' occupation, however when the structure of the record changes after the introduction of the Hardwicke Act in 1754, the occupational details are no longer included. Table 2.7 shows the details of the total number of marriages registered, together with the numbers in the water trades at twenty five year intervals during the seventeenth century (or a close date when not available), and ten year intervals during the eighteenth century up to the end of the old system in 1753. In the light of the observations about the effect of under registration caused particularly by religious dissenters on the completeness of the marriage registers before 1754, it is notable that the numbers of marriages registered in All Saints before 1754 were no lower than those registered afterwards. This calls into question either the validity of the claim that under registration of marriages was

⁶⁸ In a commentary by the Rev. Emerson, Vicar and Registrar of All Saints inserted into the parish burial register, he expresses his concern about the under-registration in the parish, with a gross imbalance between rising baptisms and falling burials, ascribing it to the increase in non-conformism. His concern extended to employing an observer at the Ballast Hills burial ground to count the unregistered burials. Newcastle City Libraries Local History Section, L929.3/N536, Vol. 11.

⁶⁹ 1646 was chosen as the year closest to 1650 which had the most complete parish register data, after this period up to 1655 the keeping of the registers became very erratic.

Year	Marriages	Water Trades	Est. Population	Est. Water Trades
1601	51	12(24%)	5,937	1,397
1625	77		8,964	
1650	41		4,773	
1675	95	31(33%)	11,059	3,650
1700	74		8,615	
1710	76	26(34%)	8,847	3,027
1720	83	30(36%)	9,662	3,492
1730	119	35(29%)	13,853	4,075
1740	127	58(46%)	14,785	6,752
1750	141	57(40%)	16,414	6,636
1753	121	41(34%)	14,086	4,773
Hardwicke's Act.				
1755	104		12,107	
1760	102		11,874	
1765	133		15,483	
1770	106		12,340	
1775	111		12,922	
1780	121		14,086	
1785	125		14,551	
1790	115		13,388	
1795	124		14,435	
1800	146		16,997	

Source: All Saints Parish Marriage Registers, NCL/LS, L929.3/N536

Table 2.7 Marriages from All Saints Parish Registers 1600-1800⁷⁰

occurring before the implementation of Hardwicke's Act, or the claim that the Act had eliminated under registration. When the estimates of the population of All Saints in the Table are compared with those of Newcastle at the same time, for example 1750, when Newcastle's population of 29,000 (Table 2.1) is compared with the estimated population of All Saints for the same year of 16,414, this constitutes 57% of the population of the city. This will, of course, be an overestimate because a significant part of All Saints parish lay outside the Newcastle city walls. All of the figures for the parish population seem to be relatively high and this may be due to the fact that the marriage rate in this

⁷⁰ These figures from the All Saints parish marriage registers are divided into those before and those after the introduction of Hardwick's Act in 1754. Not all of the years had details of occupation, those that did have the figures under 'water trades' to include keelmen, watermen, skippers and wherryman. After E.A. Wrigley, 'English county populations in the later eighteenth century', 40-50, the marriage register data was used to calculate serial populations of All Saints and the number of those in Water Trades families. Wrigley's estimates of the marriage rate per 1000 people for Northumberland was very low at 6.84 as it represented a more rural population than that in All Saints with its industrial community which was likely to have a rate closer to that of Lancashire at 9.9. As a compromise the figure for England as a whole of 8.59 was used for calculation of the All Saints population sizes.

<u>Year.</u>	<u>Burial Registers.</u>			<u>Marriage Registers</u>	
	<u>Watermen.</u>	<u>All Parish.</u>	<u>Decadal Burials.</u>	<u>All Parish</u>	<u>Water Trades</u>
1600	527	3,751			
1601				5,937	1,397
1610			8,585(1621-30)		
1625				8,964	
1646	961	4,588			
1670			9,151(1661-70)		
1675				11,059	3,650
1700	1,984	9,114	10,074(1691-1700)	8,615	
1740				14,785	6,752
1770			5,648(1761-70)	12,340	

Table 2.8 Estimates of Water Trades Population from All Saints Parish Registers.

urban parish may have been very much higher than any of those described in Wrigley's paper on county populations.⁷¹ Comparison with the estimates of All Saints parish population, and where possible of the relevant water trades populations, can be seen in Table 2.8 where, in general, the estimates using marriage registers are much higher than those using burial registers, and although an element of this difference may be due to the choice of marriage rate used for the calculations, the majority of the difference is likely to be due to the better quality of the marriage registers as a source of data for population studies

2.4 Contribution of migration to the population of All Saints watermen.

Applying some of the techniques described earlier to the All Saints parish records it is possible to get an impression of the dynamics of the water trades population. The use of baptism and burial data from parish records has been proposed by Kitch and Corfield as a method of estimating the level of migration into a parish. They indicated that a parish with a large migrant population might be expected to show a large excess of burials over baptisms. Table 2.9 shows the corresponding figures for All Saints indicating that throughout the period studied there appeared to be a

⁷¹ Wrigley, 'English County Populations', 44; It is notable that M. Barke (in Pre-Civil Registration) described a marriage rate for Newcastle in the late eighteenth century as 8.297, which is lower than the rate used in Table 2.7.

substantial excess of baptisms over burials, which, on its own might tend to indicate that there was not a significant inward migration into the All Saints parish as a whole.⁷² However these figures for both baptisms and burials must be viewed with extreme caution as they are likely to be a substantial underestimate due to the high levels of under registration, which has been shown to have prevailed in all Newcastle parishes. From these figures it would appear that significant under-registration of burials, due to increasing levels of non-conformist dissenters, was already occurring by the beginning of the seventeenth century. It has already been noted that there is likely to have been significant under registration of baptisms, and it is most probable that the apparent excess of baptisms over burials represents no more than the fact that the levels of under registration of burials was even greater than that of baptisms, making the data of little value for estimating population dynamics of any kind.

Year	Baptisms	Burials
1600	178	121
1646	355	148
1700	357	294
1750	383	238
1800	410	171

Table 2.9 Total Baptisms and Burials in All Saints Parish.

Over the period studied, the data from the parish marriage registers, which more modern methods suggest might be of more value for estimates of population size,⁷³ indicate that there was a progressive increase in the population of All Saints from 5,937 in 1601 to a maximum of around 16,997 in 1800. The data shown in Table 2.7 indicate that between 1646 and 1750 the water tradesmen represented from 24% in 1601 to 46% in 1740. It would be expected that in a growing urban community with a thriving trade there would be significant population growth from inward migration, in addition to an element of endogenous growth, which is difficult to quantify in the absence of good population data.

⁷² Kitch, 'Capital and Kingdom: migration to later Stuart London', 224.

Penelope Corfield, 'A Provincial Capital in the late seventeenth century, the case of Norwich', in *Crisis and Order in English Towns*, eds. P. Clark and P. Slack (London: Routledge, 1972), 233.

⁷³ E.A. Wrigley, 'English County Populations'.

Another way of estimating the degree of migration was used by Levine and Wrightson who used the ratio of male to female burials as an indicator of migration in nearby Whickham. Applying this technique to All Saints, we find that apart from 1750 when there are fewer burials of males than females, the other years show a great excess of male burials, which as the authors comment might be indicative of a male dominated society with an excess of males in the population. In addition there would have been an inevitable rise in male mortality rate, consistent with the risks of the industrial community that we know existed in All Saints at the time, and which they suggested could only be maintained by significant migration.⁷⁴ Although such conclusions might be justified when looking at the population of the parish as a whole, it would not be satisfactory when applying the male to female burial ratios in the context of occupation. The quality of parish burial register data in All Saints would make any occupation related conclusion difficult as the degree of under registration, together with uncertainty about whether female burials would necessarily be identified as being associated with occupations such as the water trades would affect the conclusions.

A further marker of migration into a community was used by Levine and Wrightson, quoting work by Lasker and Roberts, who devised a 'coefficient of relationship by isogamy'. Studying Whickham they suggested that the arrival of a new surname, which had not previously existed in a community, was highly suggestive of the arrival of a new individual or family, and used this to estimate the impact of immigration upon the community. They estimated that between 1608 and 1623 58.5% of the names in the parish of Whickham were new, implying that this increase was due to migration.⁷⁵

Applying the same concept to All Saints, Table 2.10 shows the percentage of new surnames in the parish over the 50 year intervals from 1600 to 1800. Interestingly, apart from 1600, the percentage of new surnames is very similar to that found in Whickham. Although there appear to be a significant number of new surnames amongst the water trades in All Saints, this apparent migration does not appear to be any greater than that which might be expected in any other rapidly developing industrial community, such as Whickham at that time. In addition, unlike Whickham, there is considerable written evidence to suggest an influx of labour from Scotland into the

⁷⁴ Levine and Wrightson, *The Making of an Industrial Society*, 179.

⁷⁵ *Ibid.*, 180.

water trades of All Saints. However, there does not appear to be an undue predominance of new Scottish names among the population. Further, like Whickham, the period of

<u>From:</u>	<u>1600-1646</u>	<u>1647-1700</u>	<u>1701-1750</u>	<u>1751-1800</u>
Total on registers	136	214	202	43
Number new surnames	104	124	111	37
Percentage increase	76.47%	57.94%	54.95%	60.56%

Table 2.10 Increase in New Surnames Amongst the Water Trades in All Saints Parish Burial and Baptism Registers

maximum growth in the population between 1646 and 1750 was not accompanied by an equivalent increase in the number of new surnames, indicating that either the increase in the water trades population was not entirely due to migration, or that, like Whickham, any migration was from places relatively close by with a similar pattern of surnames.⁷⁶

As was noted by Joyce Ellis in her study of social relations in Newcastle upon Tyne in the seventeenth and eighteenth centuries, evidence of a degree of migration of water tradesmen comes from a census of keelmen taken in 1740. At this time there had been serious hunger riots in which the keelmen had taken a leading part. The magistrates wrote to the hostmen on the 16th of July 1740 asking them for: ‘...as soon as maybe, an exact list of all skippers (and bound men) ... with an Account of the time they have respectively been in Town, and the place respectively they came from and were born or settled in’.⁷⁷ The original letter and the returns from the hostmen are preserved in the Tyne and Wear Archives.⁷⁸ A summary of the returns from 12 hostmen is shown in Table 2.11 The returns from the 12 hostmen show that they employed a total of 428 keelmen, which is clearly not the whole of the community of keelmen when compared with the estimated of keelmen numbers shown in Table 2.2, but does appear to provide a representative sample. They show a number of revealing features, firstly the hostmen appear to include a woman which coincides with the observations made earlier in this chapter noting that among twenty five hostmen signing a letter three were women. As we have already observed, the involvement of women as

⁷⁶ Lasker and Roberts, ‘Secular Trends’, 299.

⁷⁷ Ellis, ‘A Dynamic Society’, 209.

⁷⁸ Keelmens’ Papers TWAM, GU 394/11.

Hostman.	Keels.	Keelmen.	Non-Newcastle Men.	Over 10 Years.	Away
John VanHolte	8	24	15 (63%)	9 (37%)	1
John Robinson	10	30	12 (40%)	12 (40%)	11
James Simpson	18	54	28 (52%)	12 (22%)	4
Thomas Binks	7	21	--	--	5
John Baker	8	24	4 (16%)	--	6
John Hearst	10	30	--	--	10
Jane Watson	10	34	18 (53%)	15 (44%)	4
William Johnson	14	42	21 (50%)	19 (45%)	2
Samuel Shields	14	54	--	--	--
Charles Atkinson	20	65	35 (54%)	27 (42%)	14
Joseph Ord	9	27	7 (26%)	--	3
Francis Armourer	8	23	10 (43%)	8 (35%)	1
Totals:	136 (n=12)	428 (n=12)	150 (n=9)	113 (n=7)	61 (n=11)

Source: Keelmens' Papers TWAM GU 394/11

Table 2.11 A Tabulated List of the Returns from Newcastle Hostmen's Census of Keelmen.

active hostmen has not been noted previously.⁷⁹ Secondly, the keelmen are almost universally recorded in groups of three or four with a 'skipper' and two or three bound men', often with a line between each group, probably indicating that each group was the crew of a single keel, a relatively small proportion list four men, but often with a note that one has recently left, corresponding with accounts in the literature of the size of a keel crew being three or four men.⁸⁰ The place of birth was noted and indeed, of the 150 whose origin was stated, 46% did originate outside the Newcastle area.⁸¹ Most of these originated in Scotland or the Borders, but some came from other places such as Cumberland and the town of Wakefield. Similarly, of those keelmen who had moved to Newcastle from elsewhere and whose duration of stay was noted, 81% had been there

⁷⁹ Jane Watson appears in the 1740 list of hostmen filing a return on the details of her keelmen for the Mayor. There are a number of males named Watson entered in the lists of members of the Company, and it is quite possible that she could be the widow of one of these continuing her late husbands business.

⁸⁰ The records of burials in the parish registers show an interesting phenomenon throughout the period studied, where there are many groups of three watermen or keelmen buried within a day or two, which is very noticeable in the context of there being relatively few burials each month. There is a high probability that we are seeing burials of crews of keels or equivalent, probably resulting from accidents at work. These groupings of possible work related deaths occur throughout the year, implying that keels crewed by three men were working both in the summer and winter.

⁸¹ 46% Of those keelmen employed by the 9 hostmen who reported place of birth or settlement.

for more than 10 years.⁸² Of those keelmen originating from and still living in the Newcastle area, a considerable number originated from Tyneside parishes outside Sandgate, and still lived in places such as Gateshead and North Shields. The information requested by the magistrates about recent absences of keelmen showed that 61 had left their employer recently. Some of the hostmen gave details of where they had gone, and it would seem that most of them had gone to work on another keel for a different hostman, but a significant number had joined the marines, or otherwise gone to sea as pressed men.

From these figures it would appear that once migrants came to Newcastle they tended to stay for long periods, perhaps suggesting a natural process of migration rather than a transient population of seasonal workers. It would appear from the information available that although All Saints was a growing community, with the water trades increasing in proportion to the rest of the population up to the mid-eighteenth century, there was an element of immigration from surrounding areas and some from a greater distance. A significant proportion of those listed appeared to originate from Scotland or the Borders, but this probably reflected trends that were occurring in a range of other local heavy industries such as coal mining. These changes were similar in magnitude to those occurring in most major developing industrial centres in England at that time. In addition, as Barke has shown, the balance of deaths and births in Newcastle would have resulted in a fall in the population of over 1,500 between 1770 and 1801 if it were not for over 8,000 migrants increasing the population by just under 6,500, with a net fall in the city's population occurring between 1801 and 1810, when during a period of near famine out migration increased.⁸³ The predominance of males in the population of All Saints is unusual for a growing community in the early modern period and as has been noted earlier by Levine and Wrightson, is more consistent with a developing industrial community.⁸⁴

A further indicator of the degree of immigration into the community of All Saints comes from the settlement records. The settlement laws in the seventeenth and

⁸² From data supplied by the 7 hostmen who gave the necessary information, 81% of the keelmen born outside the Newcastle area had been in the City for more than 10 years, with most living there for considerably longer.

⁸³ M. Barke, 'The People of Newcastle: A Demographic History', in *Newcastle upon Tyne, A Modern History*, eds. R. Colls and B. Lancaster, (Chichester: Phillimore, 2001) 137; Middlebrook, *Newcastle upon Tyne*, 164. Failure of the cereal crops in 1800 led to serious food shortages with corn riots in Sunderland, and soup kitchens and relief funds opened for the poor.

⁸⁴ Levine and Wrightson, *The Making of an Industrial Society*, 179.

eighteenth centuries were complex and open to interpretation not just by the courts, but also by the parish authorities, which could choose the extent to which they enforced them. Norma Landau pointed out that parishes in the South of England could be demonstrated to be using the settlement laws as an instrument to manage immigration, which extended far beyond controlling the problem of the poor becoming a burden on the parish. The laws were often applied to relatively wealthy members of the community who could be subjected to a settlement examination and required to be in possession of a settlement certificate from their parish of origin guaranteeing to take responsibility if they later became a burden on the parish. Some workers or apprentices who had worked for an employer for over one year could gain rights of settlement in a parish, provided their employer also had settlement in the parish.⁸⁵ As was noted by Dendy and Fewster, because of the nature of their bonded contract of work with its attendant holidays, the keelmen were regarded as being employed for less than a year, and it is said that as a result they were not entitled to settlement in the parish. Consequently, when the keelmen or their families became poor or elderly they were not entitled to settlement and would have been returned to the parish where they came from.⁸⁶ However this only applied to those who originated in parishes in England, as Scotland and Ireland had no settlement laws and paupers could not be returned to Scottish or Irish parishes.⁸⁷ It might be expected that such a trend would be shown in the parish settlement records or the pauper records. Sadly the only settlement records that have survived for All Saints are those from 1771 to 1800.⁸⁸ These records include the names of all those who were either returned to All Saints from other parishes for poor relief, or sent away from All Saints to other parishes. In total there were six hundred and twenty entries in the records, four hundred and seventeen of which (67%) were records of people being sent away from the parish to their original homes, making All Saints a net exporter of the poor. The vast majority of these people originated from other parishes in the immediate Newcastle and Tyneside area, with a smaller number coming from the wider Northumberland and Durham counties. Only eleven of those removed (2.6%) were sent to destinations further away (Table 2.12). These people did not have

⁸⁵ Norma Landau, 'The Regulation of Immigration, Economic Structures and Definitions of the Poor in Eighteenth Century England', *The Historical Journal*, 33, 3 (1990) 541-572; Norma Landau, 'Who was subjected to the Laws of Settlement? Procedure under the Settlement Laws in Eighteenth Century England', *Agricultural History Review*, 43 (1995): 139-159; K.D.M. Snell, 'Pauper settlement and the right to poor relief in England and Wales', *Continuity and Change*, 6, 3 (1991), 375-415.

⁸⁶ Dendy, 'Company of Hostmen', 205-6; Fewster, *The Keelmen of Tyneside in the Eighteenth Century*, Part 1, 28n; Keith Wrightson, *Earthly Necessities, Economic Lives in Early Modern Britain*, (London, Yale University Press, 2000), 215-21.

⁸⁷ Burn, *The Justice of the Peace, and Parish Officer*, Vol 3, 290-2.

⁸⁸ All Saints Parish Settlement Records, TWAM, MF 356.

any previous occupation listed in the records, so it is impossible to say whether any of them had worked in the water trades.

Berwick
Brampton
Bridlington
Cockermouth
Copeland
Whitby
Scarborough
Wolverhampton,
Burslem
Stokesley
Stockton

Table 2.12 Destination Parishes of those Returned from All Saints for Poor Relief

In the light of the predominance of the water trades in All Saints it is likely that a number of those removed from the parish had worked in the water trades, and the records do demonstrate that there was a significant immigration from areas other than Scotland into All Saints, indeed the fact that the vast majority of those being returned came from relatively local parishes tends to coincide with the observation made earlier in this chapter that the profile of new names appearing in the parish register was consistent with more local origins. The frequent references in the hostmen's records to the problems of supporting the care of the poor in Sandgate, culminating in the establishment of the keelmen's charities and the building of the Keelmen's Hospital, may well have been a reflection of the inability to return poor immigrants originating from Scotland.⁸⁹ A further source, which might have given us some idea of the make up of those who were requiring poor relief in the parish, were the parish overseers accounts in the pauper records.⁹⁰ Although many of these still survive for All Saints, they contain only the names, dates and sums paid out with no note of their occupations or parish of origin, meaning that they are of little value for clarifying the nature of the inward immigration into All Saints.

⁸⁹ Dendy, 'Company of Hostmen', 205-6.

⁹⁰ All Saints parish Overseers Accounts, TWAM, MF 349.

In addition to the crude numbers of baptisms, marriages and deaths that appear in the parish registers, allowing estimates to be made of changing population size in a community, more personal details including family names, age and occupation also appear and enable the commonest family names to be identified, possibly enabling the recognition of family ‘dynasties’ in certain trades. The data from the All Saints parish registers certainly allows us to identify the larger family groups and the duration of their prominence in the community as shown in Table 2.13. The table is derived from the 752 water tradesmen and their families from the sample of parish registers analysed at intervals from All Saints between 1600 and 1800. Although there were a number of groupings the largest family surname group totalled only 16 over a period of two hundred years. It is possible that some of these groupings were a result of co-incidence rather than a single family, and there were clearly no obvious very large family groups or ‘dynasties’ among the water trades during the period of this study.

<u>Surname</u>	<u>Number of Individuals</u>	<u>Date Range</u>
Anderson	7	1646-1750
Brown	9	1646-1800
Clark (Clarke)	7	1646-1750
Davison (Davidson)	8	1600-1750
Dickson (Dixon)	13	1600-1800
Graham	6	1646-1700
Gray (Grey)	8	1600-1750
Hall	10	1600-1700
Johnson	9	1600-1800
Patterson (Pattinson)	8	1600-1800
Reed (Reade)	6	1646-1800
Robinson	9	1600-1800
Smith (Smit)	12	1646-1750
Thompson (Thomson)	9	1600-1750
Watson	15	1600-1750
Wilson	16	1646-1800

Table 2.13 Family Surnames in the Water Trades in All Saints Parish.

Notwithstanding the deterioration of the quality of parish registration towards the end of the eighteenth century, there was an improving quality of information in the later parish registers with data about age and occupation, together with data about place of birth, enabling us to look more closely at the age, occupational structure and origins

of the All Saints parish from 1750 to 1800. Even though the figures are less satisfactory for a quantitative analysis, they provide useful qualitative information about those who were registered at that time.

It was not until 1778 that ages were included in the burial registers, and using the register from then until 1800 we can get a very limited view of the spectrum of the age distribution at burial of the male working population in All Saints (Table 2.14), allowing for the large element of under registration. Although the numbers are very small, probably as a result of the widespread under registration that was occurring by this time, we find that there are only five burials of watermen registered in this period, which is too small a number to analyse, other than to observe that their distribution fitted the trends shown by the male working population as a whole.

<u>Age Range</u>	<u>Number</u>
10-19	1
20-29	9
30-39	4
40-49	8
50-59	9
60-69	14
70-79	9
80-89	1
90+	2

Table 2.14 Age at Burial of Males in All Saints in 1800.

An analysis of the occupational profiles of this small sample of the male population of All Saints parish, based on burial register information from 1750 to 1800 shows a diverse working community with around 35 different occupations throughout the period 1750 to 1800 by which time the population numbered around 14,800, a sample of which are shown in Table 2.15. The range of occupations change over the period, showing how the list of the top 20 occupations alter with the passage of time over the last fifty years of the century, with the water tradesmen still featuring very high in the lists up to 1800. Although it is possible to speculate that certain occupations were more likely to be associated with religious dissent.

Sadly, largely due to under registration, the numbers available make it difficult to draw firm conclusions about how the full occupational profile of the Newcastle

parishes developed towards the end of the eighteenth century and into the nineteenth century. However, the Cambridge Population Studies Group have examined the occupational structure of many of the Tyneside parishes using baptism registers between 1813 and 1820. Their data shows clearly the redistribution of occupations along the river with the preponderance of keelmen and watermen in All Saints being replaced by ships masters and mariners, with the river water tradesmen reappearing distributed throughout the other riverside parishes.⁹¹ Few other sources of occupational data are available, the 1801, 1811 and 1821 censuses did not collect occupational details and it was not until the 1831 census that some occupational details were collected, but unfortunately in the summaries that are available there are no records of the water trades occupations that are the subject of this thesis.⁹² The 1841 census gives a much more

<u>Occupation</u>	<u>1750</u>	<u>1775</u>	<u>1800</u>
Yeoman	10	4	0
Waterman	8	5	5
Shipwright	7	0	0
Butcher	5	4	2
Mariner	5	2	5
Weaver	4	0	1
Victualler	3	0	0
Barber	3	0	2
Labourer	2	4	2
Cooper	2	0	1
Gentleman	2	4	3
Joiner	2	2	0
Agent	0	8	3
Cordwainer	0	4	3
Soldier	0	3	4
Barber Surgeon	0	3	0
Tailor	0	2	0
Attorney	0	2	0
Rope Maker	0	2	0
Flax Dresser	0	0	2

Table 2.15 Occupational Profiles from All Saints Burial Registers
1750-1800.

⁹¹Leigh Shaw-Taylor, *Personal Communication*, 06/01/2009. The author is Indebted to Dr Shaw-Taylor for so freely sharing his occupational population data for this period.

⁹² http://www.staffs.ac.uk/schools/humanities_and_soc_sciences/census/cen1831.htm

complete occupational profile of all of the riverside parishes including All Saints and includes many of the occupations associated with the water trades. However, by this stage in the nineteenth century many social and industrial changes had taken place, which influenced the patterns of occupation and employment placing them outside the scope of this thesis.

2.5 Conclusions

The working population of the lower River Tyne between 1600 and 1800 was dominated by the evolution of the coal trade. Coal owners and their agents, the hostmen, controlled the development of the trade and influenced the working lives of all those who worked as water tradesmen during this period. Coal was not the only commodity to be exported, and as we are aware there was a significant import trade, particularly of foodstuffs and other consumables. The shallow and tidal nature of the Tyne meant that much of the cargo for export had to be carried in small boats towards deeper water closer to the mouth of the river for loading onto ships, and the process reversed to a degree for imports, but much non-coal import and export activity occurred at the commodious Newcastle quayside. This activity stimulated the development of a thriving community of water tradesmen whose task was to transport the cargoes on the river.

Much has been written about the tradesmen, who were known by a variety of names including waterman and wherryman, but the most common term, about which most has been written is keelman. The keelmen have been portrayed by a wide variety of authors as a cohesive group of workers, mainly of Scottish origin who worked on a seasonal basis on the river, returning to their homes in Scotland in the winter to rejoin their families. Stories abound of their way of life, including their characteristic style of dress. They were known for being a tight knit community, but were always very poor, managing well in the summer when work was plentiful, but experiencing severe deprivation in the winter, when the coal trade was often suspended because of cold and inclement weather. Various accounts have been given of their numbers but these are largely anecdotal with little documentary evidence to support them. The keelmen were notable for being ready to work together and being very active in a number of strikes which were attempts to improve their wages and conditions of work.

This chapter has endeavoured to explore contemporary sources of evidence, including parish registers and documents from local archives, using more recent methodologies to determine the extent to which the views expressed in the literature about the history of the water trades are supported by the available evidence. A key issue is the extent to which the water trades along the Tyne were indeed a transient seasonal migrant community from Scotland and the Borders, or whether they were a more stable population which was growing and developing by virtue of migration from surrounding counties in a manner similar to that described for many of the larger provincial cities of the period. Using parish records, a census from All Saints parish in Newcastle upon Tyne and surviving settlement records, it was possible to undertake a detailed case study of the water trades population of a parish which had been recognised as a centre of the water trades during this period.

The evidence obtained from the parish registers and census, did indeed confirm the dominance of the water tradesmen in All Saints, however the nature of the population seems to be more complex. Several recognised indicators of inward migration were used to analyse the parish register data. It was possible to show that there was an increasing population from 1600 to 1800, and it was probable that this was due to inward migration. An indicator of migration into a community is an increase in the number of new surnames, which suggest the arrival of new families. Using this measure there was an increase of around 60% in the occurrence of new surnames over each fifty year period. This is very similar to that found in Whickham, and like that parish there did not appear to be a predominance of Scottish names in All Saints. It is possible that, although there was clear evidence of a significant contribution to the population from Scotland and the Borders, some of the movement of new families into All Saints could have been due to migration from places quite close by with a similar distribution of surnames.

A census of keelmen in 1740, gives evidence of a significant number of the keelmen (46%) coming from outside Newcastle, but the vast majority of those (81%) had stayed in Newcastle for over ten years, and most of those for much longer. These results indicate an industrial community which was growing in a manner very similar to that which was occurring in many other provincial cities at the time, with both growth, and the proportion of migrants to the rest of the population being almost identical to that described elsewhere. The often repeated suggestion that the population of water

tradesmen was largely of Scottish origin does appear to be at least partially true, with 46% of a census of keelmen originating from outside Newcastle, with the majority being from Scotland.. However, that there should be a significant proportion of Scots is not surprising considering its relative proximity to the Tyne, but it seems to constitute less than 50%, and of those, most seem to have taken up long term residence in Newcastle. In addition, because of the nature of the settlement laws and the absence of equivalent legislation in Scotland there was no evidence of destitute Scotsmen being returned to Scotland when they fell upon hard times. Scottish labourers were certainly recruited into the coal industry surrounding the Tyne, Levine and Wrightson described shortages of labour in the coal mines around Whickham which had resulted in the employment of women in the mines and the need to recruit additional labour from Scotland.⁹³ The issue of the work and the Scottish workers being seasonal and itinerant is not clear. There is certainly little evidence to support the concept, particularly as there is some documentary evidence that keels were used on other work during the winter clearing ballast and wrecks from the river. The notion that some keels and keelmen continued to work during the winter is enhanced by the continuing clusters of three burials within a day or two, indicating the possible death of a keel crew at work, which continues winter and summer throughout the period studied.

The use of published data on the amounts of coal exported each year, and the computations on the numbers of keels and keelmen necessary to undertake the work involved, provides another perspective on the potential size of the water trades communities. The calculations appear to give very reasonable comparisons with those figures appearing in the literature, particularly during the eighteenth century (Table 1.2), however there are fewer useful estimates in the literature for the seventeenth century, for example an estimate for 1637 of 1,800 men included other types of labourer. This makes comparisons more difficult but overall, using this technique of relating keel and keel numbers to published levels of coal exports, appeared to give realistic estimates.

An attempt was made to estimate the sizes of the populations of Newcastle, All Saints parish and the water trades communities. A major problem in comparing these with the estimates of population in the literature is that the latter estimates vary considerably. The population estimates we have made from All Saints parish burial registers indicate a marked difference in the estimates between those using single year

⁹³ Levine and Wrightson, *The Making of an Industrial Society*, 185-6.

totals and those using decadal averages, the single year estimates being significantly lower than the decadal averages, confirming that the use of decadal averages appears to iron out inter-year variations. However, as might be expected population figures derived from the marriage registers gave a more plausible series of estimates of the changing population. The figures for keelmen numbers using the recorded levels of coal exports, although using a number of assumptions, produce estimates of the size of the water trades population, which are not dissimilar from those appearing in the literature. In addition, particularly for the beginning of the eighteenth century the figures compare well with those obtained from parish registers, the fact that the estimates obtained from the coal trade are lower than those from parish registers may possibly be indicative of the number of water tradesmen who worked in water trades other than the keels and the coal trade. The changing pattern of the different occupations in the riverside communities is shown in the last fifty years of the eighteenth century, when the parish registers begin to show a wider range of tradesmen working in the community. However throughout this period of accelerating change in the industrial community along the river Tyne, the water tradesmen remain a significant part of the working community in the parish.

Chapter Three

Ownership of the Means of Transportation: Networks of Working Boat and Ship Ownership.

The existence of trade on a river or waterway implies the presence of boats and the people to work them; this is particularly true if the waterway is deep and wide enough and there is easy communication with the sea, enabling more distant trade with other centres both at home and abroad. The existence of tradable commodities in the local hinterland, promoting an export trade balanced by an import of commodities, which are not locally available, will only enhance this process. The presence of both people and trade will inevitably result in the development of communities and the social structures which accompany them, the nature of these social structures and the trading networks which are associated with them will reflect the character of the local trade and the mechanisms by which commodities are distributed, both overland and by water. There are a number of examples of such provincial cities in seventeenth and eighteenth century England such as Hull, Bristol and Liverpool.¹ As has been shown in the Introduction and Chapter One, the lower River Tyne and its associated communities are another very good example of such a trading complex. Despite the relatively small area occupied by Newcastle and the lower Tyne basin, the dominance of the mining of coal and its subsequent export underpinned the economy of the area, enabling it to become of prime national importance by supplying the energy that facilitated the rapid development of London and many other cities and towns over two centuries.²

Although the history and general principles of the process of coal marketing and transport during the seventeenth and eighteenth centuries are well understood, many of the finer details remain unclear. A significant feature of the urban and industrial communities in the seventeenth and eighteenth centuries was the importance of inter-related social and business networks, which had become essential to the functioning of

¹ Davies, *The Trade and Shipping of Hull*; Hussey, *Coastal and River Trade in Pre Industrial England*; Stammers, 'Ships and port management at Liverpool', 27-50.

² Wrigley, 'A simple model of London's importance', 58-60. The rise in the population of London from 400,000 to 675,000 between 1650 and 1750, and its impact on the demand for coal was a major driver of employment outside London. Wrigley estimated that the total employment afforded by the London coal trade outside London may have risen from 8,000 to 15,000 over this period, which when including family and other dependants rose to about 25,000 to 50,000 people respectively.

the business life of the community, and particularly those of the ‘middling sort’.³ One’s position within these networks, particularly those involving the coal industry along the River Tyne, was very much a consequence of the power exercised by virtue of ownership, either of the coal itself, the mode of transport or both. The power exercised by those who controlled the modes of transport of coal is not easy to identify, partly because evidence of ownership of ships was not always well documented. However, although registration of seagoing shipping did not become necessary until towards the end of the eighteenth century, notes of the ownership of a seagoing vessel and the name of its master are often included in some of the Customs House Shipping Records. Records were not necessary for river craft,⁴ and as a result the ownership of river craft, such as keels, has no readily available documentation at all. There are a number of anecdotal accounts of keel ownership, but none supported by objective evidence. Nef observed that the Tyne keels: ‘... were built and owned by the same Newcastle merchants who became the colliery owners. At first during the sixteenth century they dealt with the skippers who undertook the ‘fittage’ giving them some savings and social standing in the Town’.⁵ Subsequently this role was taken over by agents or hostmen. In contrast, after the implementation of the Navigation Act of 1786, all vessels greater than fifteen tons had to be registered at one of the designated ports of registry. This was usually a port where the ship normally traded from, or where her owners lived, and Newcastle upon Tyne became such a port. This Act was intended to distinguish British shipping, entitled to the privileges of the navigation laws, from American shipping in the aftermath of the American War of Independence. Registration gave a more precise estimate of the maritime strength of the country and helped to minimise abuses of the tonnage dues and smuggling. The registration details of a ship after the introduction of the Act included full details of the dimensions and rig of the ship together with details of the names, addresses and occupations of the owners, together with a record of their respective share of ownership in sixty-fourths.⁶ However, once again, small working river craft were not included and hence their ownership went unrecorded.

³ S. D’Cruze, ‘The Middling Sort in Eighteenth Century Colchester: Independence, Social Relations and the Community Broker’, in *The Middling Sort of People*, ed. J. Barry and C. Brooks, (London: Palgrave Macmillan, 1994), 181-96.

⁴ Stammers, *Sailing Barges*, 34.

⁵ Nef, *The Rise of the British Coal Industry*, Vol 1, 440.

⁶ Simon P. Ville, ‘Shipping in the Port of Newcastle 1780-1800’, *Journal of Transport History* 9 (1988), 60-1; Simon P. Ville, ‘Patterns of shipping investment in the Port of Newcastle upon Tyne, 1750-1850’, *Northern History* 25 (1989), 203-21; Simon P. Ville, *English shipowning during the industrial revolution: Michael Henley and Son, London Shipowners 1770-1830*, (Manchester: Manchester University Press, 1987), 2-15.

3.1 Probate Inventories as source for the study of the ownership of Boats and Ships.

One of the few primary sources of evidence about the ownership of property and effects in the seventeenth and eighteenth centuries are wills and probate inventories. Probate inventories were lists of moveable items of property belonging to a person who had died. The size of the estate needed to require an inventory tended to vary between different ecclesiastical court jurisdictions across the country. These inventories were prepared by friends or relatives and were required to be exhibited at the time of probate. They were commonly made throughout the seventeenth century but rarely survive after 1720.⁷ Notwithstanding the limitations of probate inventories as a source, both in terms of their availability and scope, they provide a valuable source of information about the ownership of both ships and working river boats.⁸ Before the Court of Probate Act of 1857, the proving of wills and granting of administrations lay with the ecclesiastical courts. The process of deciding in which court a will would be proved was complex and depended on the size of the deceased's estate and its distribution. Where an estate was spread over a number of archdeaconry court districts the will would be proved in the next higher court, which was usually the diocesan court. In circumstances where the estate was distributed over more than one diocese, the will came under the aegis of one of the provincial courts, either the Prerogative Court of York (PCY) or the Prerogative Court of Canterbury (PCC). In addition whenever an estate included property in London or the death occurred abroad the will was proved in the PCC, wherever in England the deceased resided.⁹ The effect of this is that to ensure that all relevant wills and probate inventories in a town or district under study are analysed, any relevant records kept in the PCC and the PCY must be identified. Examination of the surviving records showed that although there were very few relevant surviving inventories in either Canterbury or York Prerogative Courts,¹⁰ there remain a significant number of

⁷ Arkell, 'The Probate Process', 3-13; Jeff Cox and Nancy Cox, 'Probate 1500-1800: a System in Transition', in *When Death do us Part*, eds. T. Arkell, N. Evans and N. Goose, (Oxford: Leopards Head Press, 2000), 14-37; Weatherill, *Consumer Behaviour and Material Culture*, 2.

⁸ Arkell, 'Interpreting Probate Inventories', 72-102.

⁹ Arkell, 'The Probate Process', 3-7; L. Weatherill, *Consumer Behaviour and Material Culture*, 2; Mark Overton, Jane Whittle, Darron Dean and Andrew Hann, *Production and Consumption in English Households 1600-1750*, (London, Routledge, 2004), 13-32.

¹⁰ A search of The National Archives, in Kew, for records of wills and inventories in the Canterbury registry resulted in 37,308 records being checked and a relatively small number of 27 potentially relevant records being identified of which 12 related to Tyneside. None of these related to people or material relevant to the study. Contact with the archivists at the Borthwick Institute in York revealed that the records held from the York Prerogative Court only include inventories from 1680 until 1750. In addition the wills are listed by name but with no record of whether or not there is an inventory. Searches were

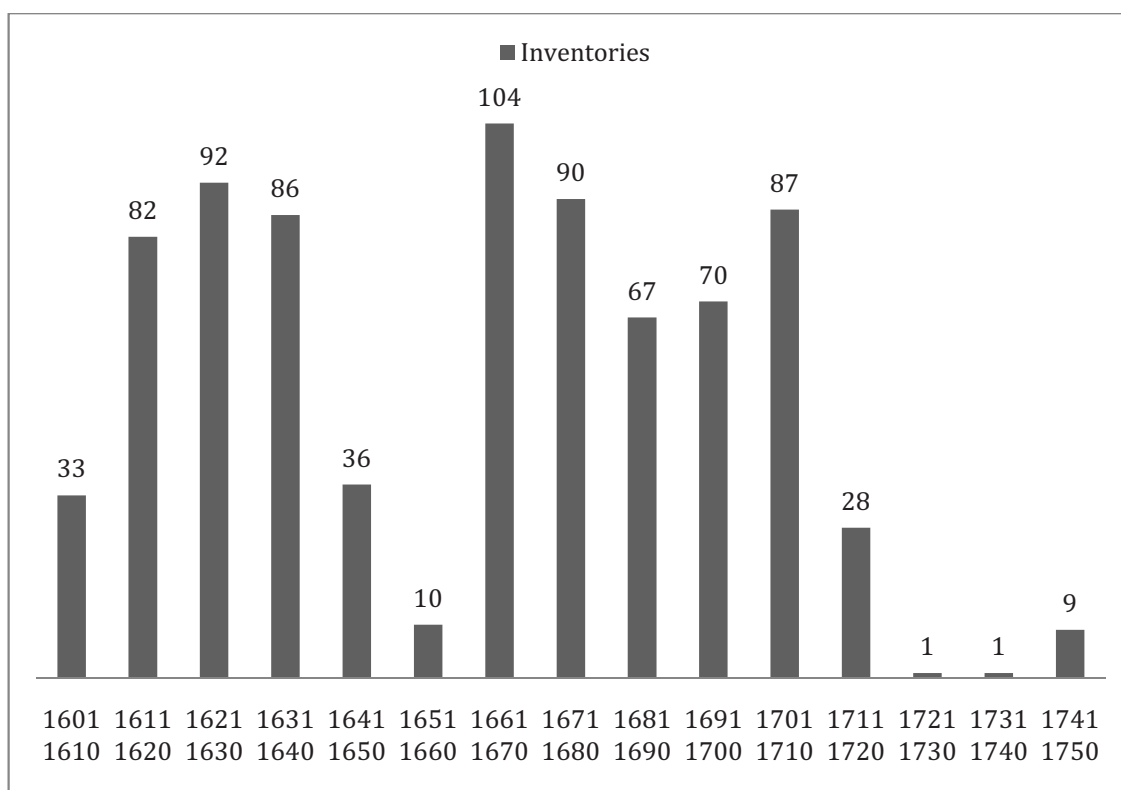
surviving probate inventories in the Durham registry for the parishes surrounding the lower River Tyne between 1600 and 1750. These have been examined in this thesis (Fig. 3.1.). Fortunately a large percentage of these inventories have details of parish of origin and occupation enabling an examination of the extent to which the ownership of boats or ships was recorded, and how they were distributed through the local community (Table 3.1). A small number of wills mentioned the existence of boats or ships, but the details were usually too vague and imprecise, when compared with the detail included in the inventories, to provide sufficient information for this study. An understanding of the patterns of ownership of boats and ships will enable us to see more clearly the structure of the business networks that enabled the coal and other trades to function. An additional dimension is that many inventories give a valuation of the boats and ships, enabling an insight into the relative wealth of individuals who owned these different craft. The valuations might also tell us something about the size and complexity of individual vessels.

Seven hundred and ninety six probate inventories originating from the parishes surrounding the lower River Tyne from the Durham Probate Registry were selected for detailed study.¹¹ On the basis of this examination a Probate Inventory Database has been constructed using data collected from each of these documents. The data collected for each inventory included the name of the testator, the year, gender, occupation, ownership of boats or ships and, where available, their value, together with the total value of the inventory (Appendix A)¹². A further related database was constructed to collate details of every boat or ship that was owned, including its type and value. A total

requested for Newcastle and the other Tyneside parishes with 67 results, of those 25 were identifiable as hostmen or merchants and copies obtained, none of which included an inventory, or reference to boats and ships.

¹¹ 2092 probate inventories originating from parishes surrounding the lower River Tyne were identified from the Durham Probate Index. From these 796 were selected for detailed examination on the basis of occupation. A preliminary survey had shown that boat and ship ownership was confined to a limited number of occupations associated with business, land and property ownership and the water and maritime related trades. The detailed study was initially confined to those inventories originating from those involved in those trades. Later in the study a database containing some details of boat and ship ownership became available from Francis Gotto of the North East Inheritance Project at Durham University. This confirmed that the boat and ship owning probate inventories in this study had been correctly identified, and in addition provided some additional inventories to include for the more detailed examination in this study.

¹² Appendix A relates to a CD-Rom attached to this thesis which contains a Microsoft Access database file entitled 'Tyne Water Trades' which contains full details of all of the probate inventories discussed in this chapter.



Source. Data for all Probate Inventory related figures and tables in this Chapter can be found in the Probate Inventory Database, Appendix A and it's associated CD-Rom

Figure 3.1 Number of Probate Inventories by Decade.

<u>Parish.</u>	<u>Number of Inventories (Percent of total.)</u>	
Blaydon	2	(0.25%)
Gateshead	64	(8.0%)
Hebburn	4	(0.5%)
Howdon	1	(0.125%)
Heworth	1	(0.125%)
Jarrow	8	(1.0%)
Newburn	5	(0.6%)
Newcastle	582	(73.1%)
North Shields	31	(3.9%)
Ryton	25	(3.1%)
South Shields	47	(5.9%)
Tynemouth	9	(1.1%)
Wallsend	4	(0.5%)
Whickham	13	(1.6%)
<u>Total</u>	<u>796</u>	

Table 3.1 Distribution of Probate Inventories among Parishes Surrounding the lower River Tyne.

of 864 ships and boats were identified, together with details of skippers or masters where this information was available. Careful analysis of the data in both of these databases has enabled us to demonstrate not only the very wide range of working boats present on the river, but also valuations, which varied according to their age and condition. A further analysis of the occupations of the owners of these boats and ships uncovered the range of occupations, which had a major share in the ownership of working river boats, and by implication most of whom were major players in those trading networks. In addition the inventories illustrated how cargo ships were owned in fractions, from a whole ship up to sixty fourths, the majority of ship shares being in eighths, sixteenths and thirty-seconds. This ability to invest in a defined fraction of the ownership of a merchant ship made it much easier for an interest in ship ownership to be spread amongst a wider spectrum of the population, many of whom may have had only a modest amount of money to invest. This almost certainly led to the potential for a wider ownership of shares in cargo ships among trades not normally associated with maritime trade, implying that there was an opportunity for the development of an investment market in ships and sea trades.¹³ As will be seen later in this chapter many tradesmen and women took advantage of this growing investment opportunity.

3.2 Patterns of ownership of working boats on the River Tyne.

The numbers of working boats on the lower River Tyne listed in the probate inventory sample during the seventeenth and eighteenth centuries are shown, by decade, in Fig. 3.2. The amount of data declines rapidly after 1720 as after this date few inventories remain in the Durham Registry. The chart demonstrates that from the substantial excess of boats over owners, many individuals clearly owned more than one boat, as is demonstrated by the progressively increasing ratio of boats to owners shown in Table 3.2. The distribution of boats and owners shows a clear peak between 1660 and 1690 which is partly due, both to an increase in the number of surviving inventories, and also to an increase in the number of boats owned by an individual owner. Even allowing for the fact that these figures represent only those inventories that have survived, this sample clearly illustrates a trend of ownership being concentrated in fewer hands as the number of boats increased in response to increasing trade.

¹³ Richard Grassby, *The Business Community of Seventeenth-century England*, (Cambridge: Cambridge University Press, 1995), 16-17, 82-98.

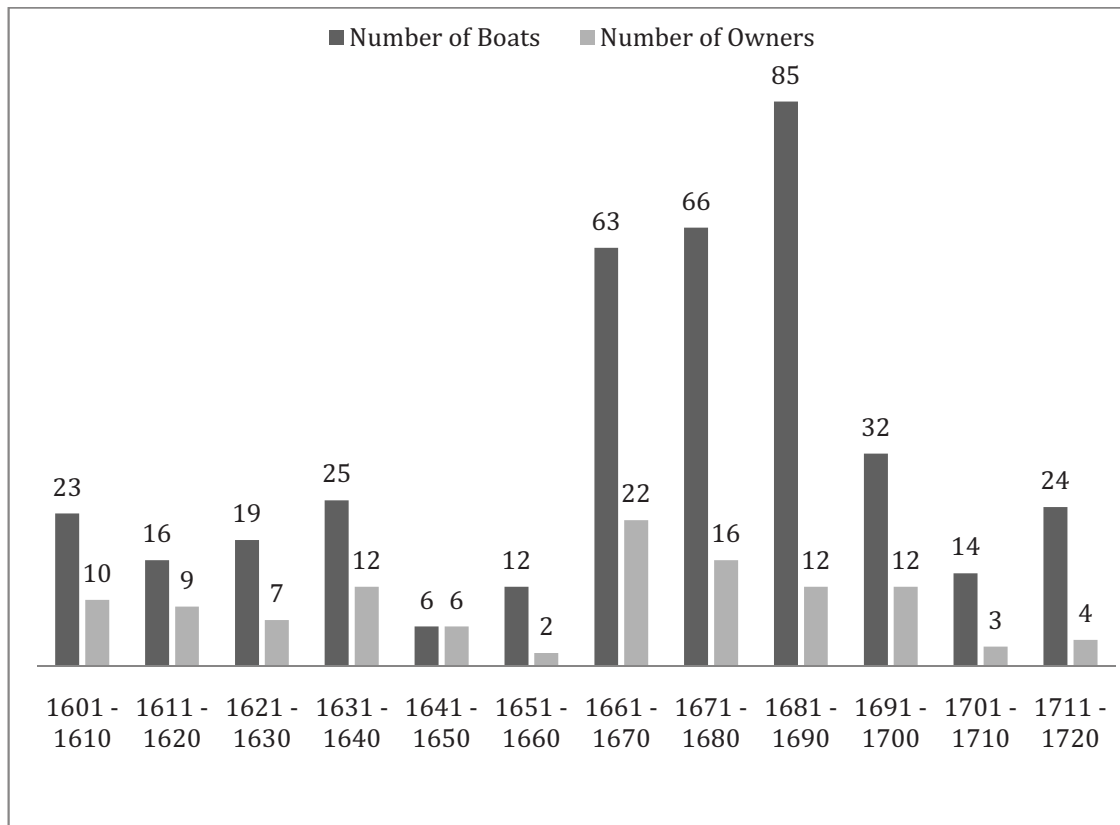


Figure 3.2 Boat Ownership in the River Tyne by Decade.

<u>Years</u>	<u>Ratio Boats:Owner</u>
1601-1640	2.2 : 1
1641-1680	3.2 : 1
1681-1720	5.0 : 1

Table 3.2 Ratio of Boats per Owner over Forty Year Intervals 1600-1720

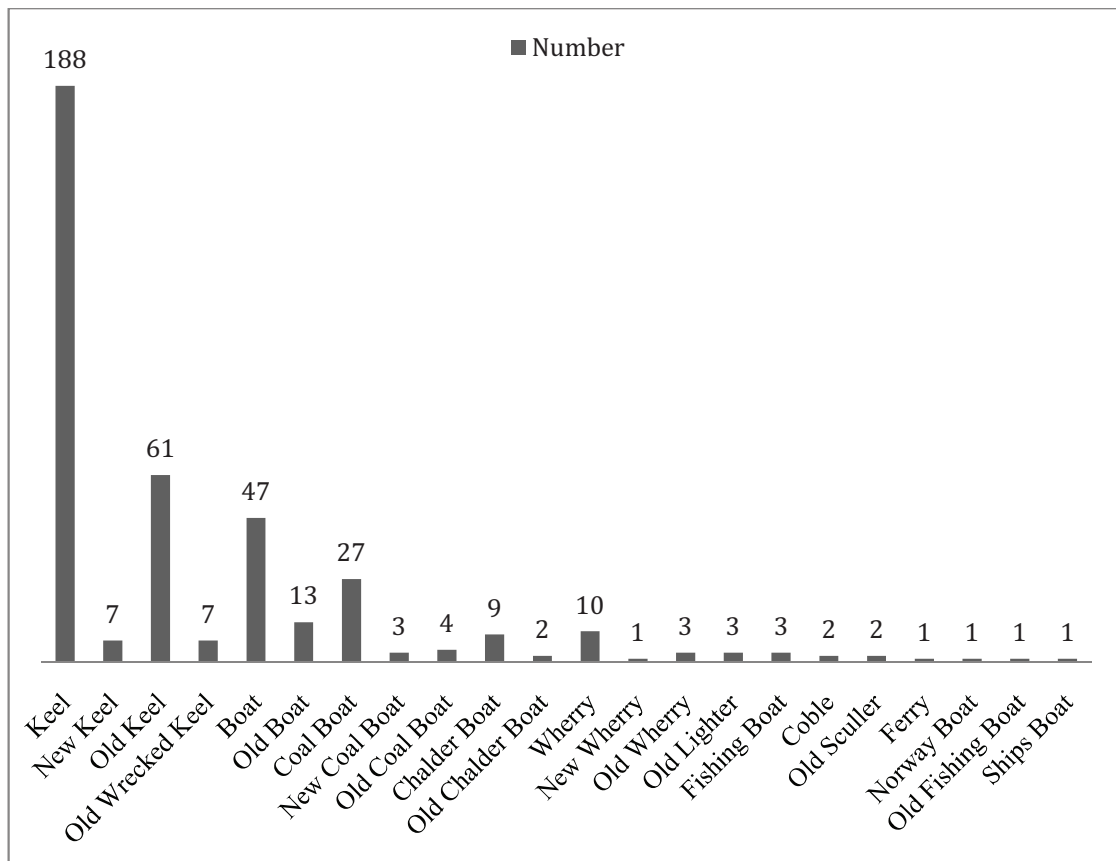


Figure 3.3 Types of Boat on the River Tyne 1600-1750.

The wide variety of boats described, and valued in the inventories totalled 396, the types and their respective numbers are illustrated in Fig 3.3. It is clear that the commonest type of boat was the keel, making rather less than half of the total. The remainder were composed of a wide variety of boats of varying sizes and functions, including small numbers of fishing boats and a ferry. The types of working boat described changed with the passage of time. The types and numbers of boats are shown, by decade, in Fig. 3.4. It is notable that keels were the predominant type of boat listed throughout, however ‘chalder boats’ only appeared in the first half of the seventeenth century and ‘coal boats’ were a feature of the second half, almost equalling keels in the last decade. Wherrys however appeared in small numbers throughout the whole period. The following sections describe the main types of boat in the inventory sample.

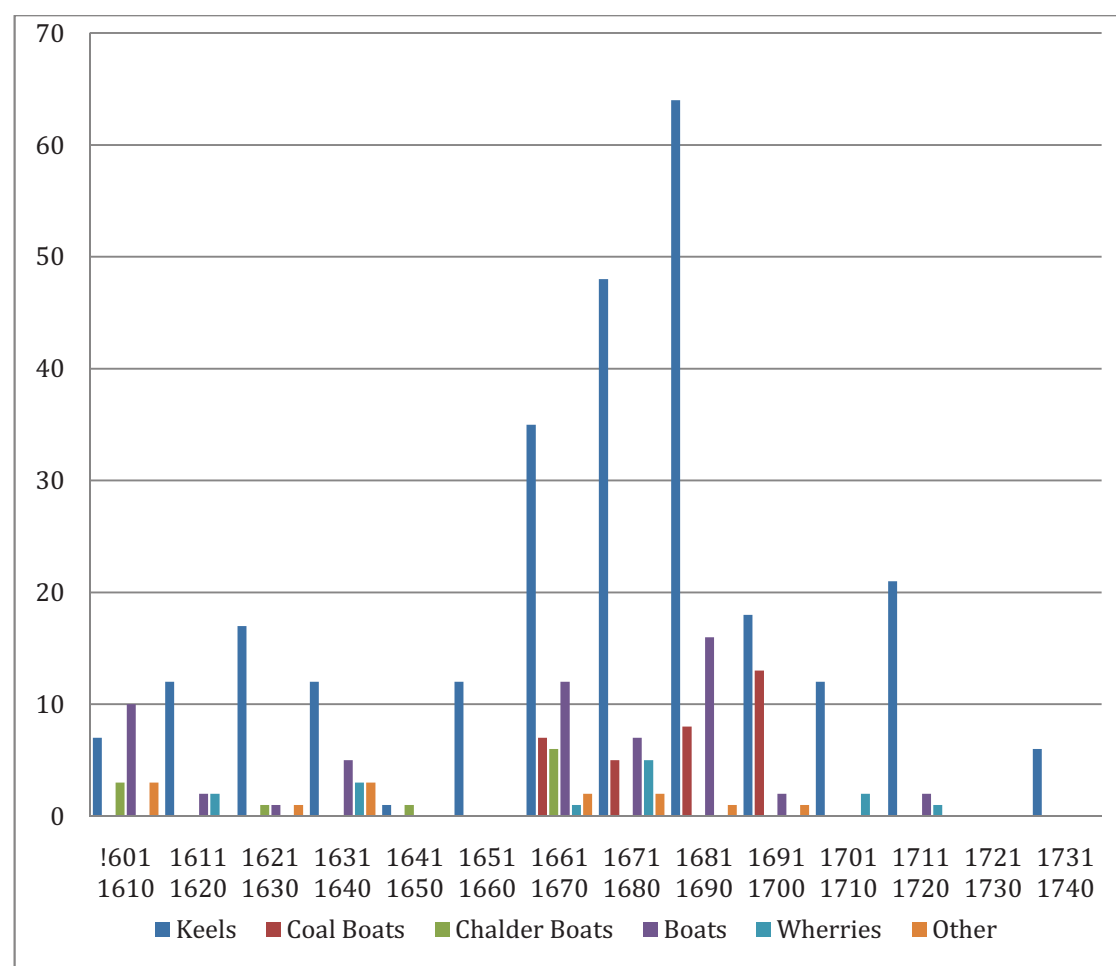


Figure 3.4 Types and Numbers of Boats on the River Tyne by Decade

3.2.1 Keels.

Keels were of consistent size and construction for many centuries.¹⁴ As taxes were raised on the basis of a keel load of coal weighing 8 chaldrons or 21 tons, they were measured on a regular basis by being loaded with a known weight; a mark was then made with a nail on the water line, to ensure the accuracy of their load capacity. For example, there is a note in the Company of Hostmen's records from 1713, that a John Clutterbuck, the Officer for the Admeasuring of Keels, had a certain quantity of lead delivered to him, but was charging more to measure the keels than the cost of the lead.¹⁵ The characteristic feature of the construction of keels was that they were of smooth sided, or carvel, construction with the planks being fixed to frames edge to edge. They were about 42 feet in length, 19 feet wide and 6 feet deep, and were steered by a large oar called a swape, and propelled either by a large oar or pole, or carried a

¹⁴ Charleton, *Newcastle Town*, 254; Middlebrook *Newcastle upon Tyne*, 42; Nef, *Rise of the British Coal Industry*, Vol 1, 387-8; Hatcher, *The History of the British Coal Industry*, 467.

¹⁵ Dendy, 'Company of Hostmen', 181.

squaresail.¹⁶ The most comprehensive description was provided by Viall in 1942¹⁷ who published a line drawing of a keel based on models currently held in the Discovery Museum in Newcastle upon Tyne (Fig 3.5).¹⁸ The exact date of the models are unknown, but are believed to originate from the early or mid nineteenth century. Viall, having done much local research including an extensive search for archaeological evidence of remains of keels, combined evidence from a number of indirect sources to prepare the drawing of a keel and gives what appears to be a reasonably accurate idea of its construction. He wrote:

The earliest type (of keel) was double ended and rudderless, being steered by an oar held by one man, the skipper, and propelled by a very large oar or 'swape' managed by three men. ... At some later stage a rudder was introduced. ... The floor of a keel was about 2 feet from the deck line, and the coals were piled up on this and kept in place by deals stacked on end, this was done to ease the labour of unloading the cargo. ... The early keels carried only square sails; later on a staysail was introduced and in their latter days we find a large spritsail and staysail to be the common practice ... In construction the keels were extraordinarily strong. In the best, i.e. the highest priced examples. the timbers of grown oak were so close that only the width of a man's fist would go between them. This space was a matter of price; the wider the space the cheaper the keel. Planking was mainly of English oak, but elm was used in many cases below the water line.

¹⁶ Brand, *History and Antiquities* 261-2; Charleton, *Newcastle Town*, 324-8; Ashton and Sykes, *The Coal Industry*, 196; Mitcalf 'History of the Keelmen and their Strike in 1822', 3; Nef, *Rise of the British Coal Industry*, Vol 1, 387-8;

¹⁷ H.R. Viall, 'Tyne Keels', *Mariners Mirror*, 28(1942), 160-2.

¹⁸ Tyne Wear Archives and Museums (TWAM).

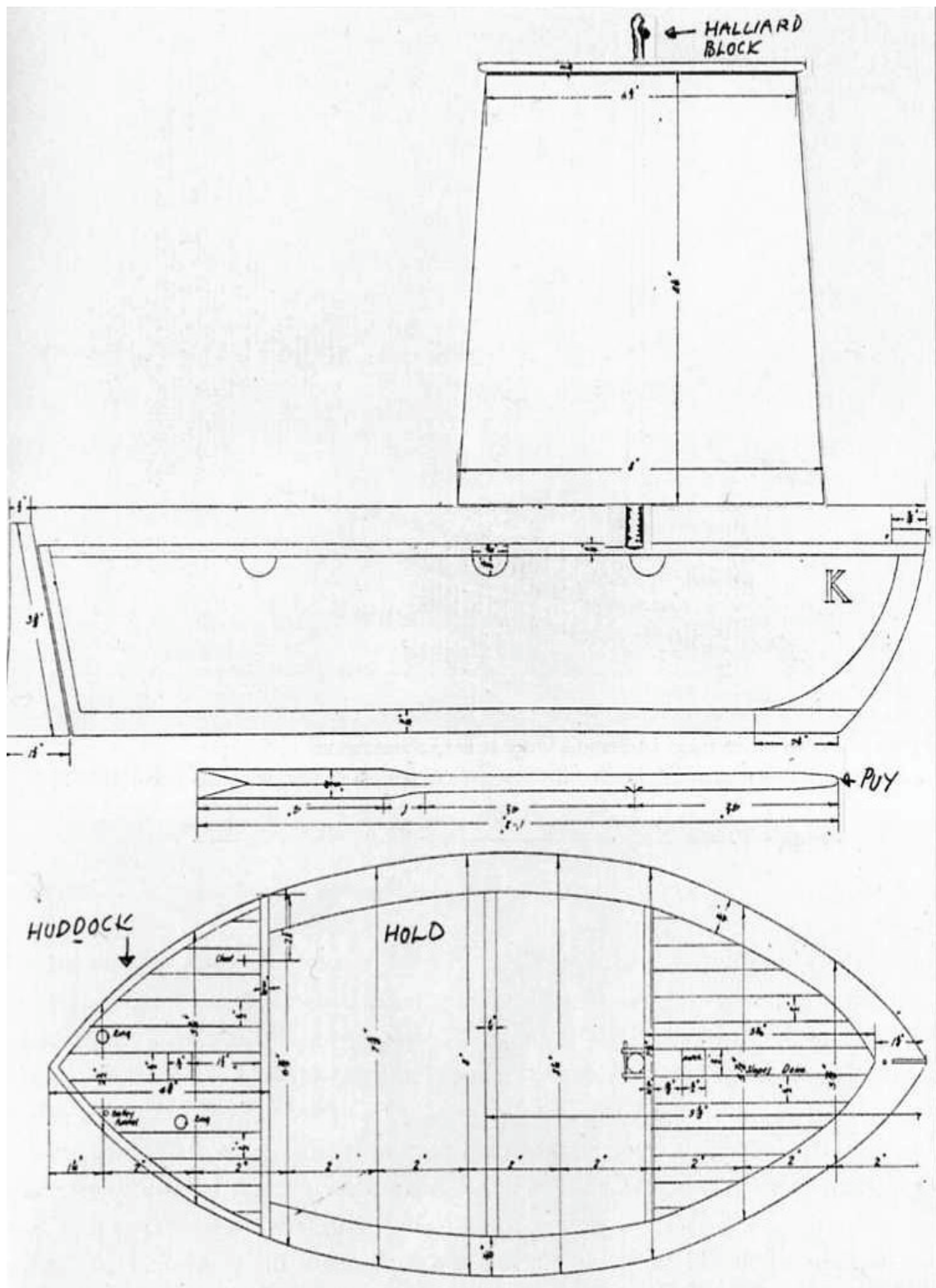
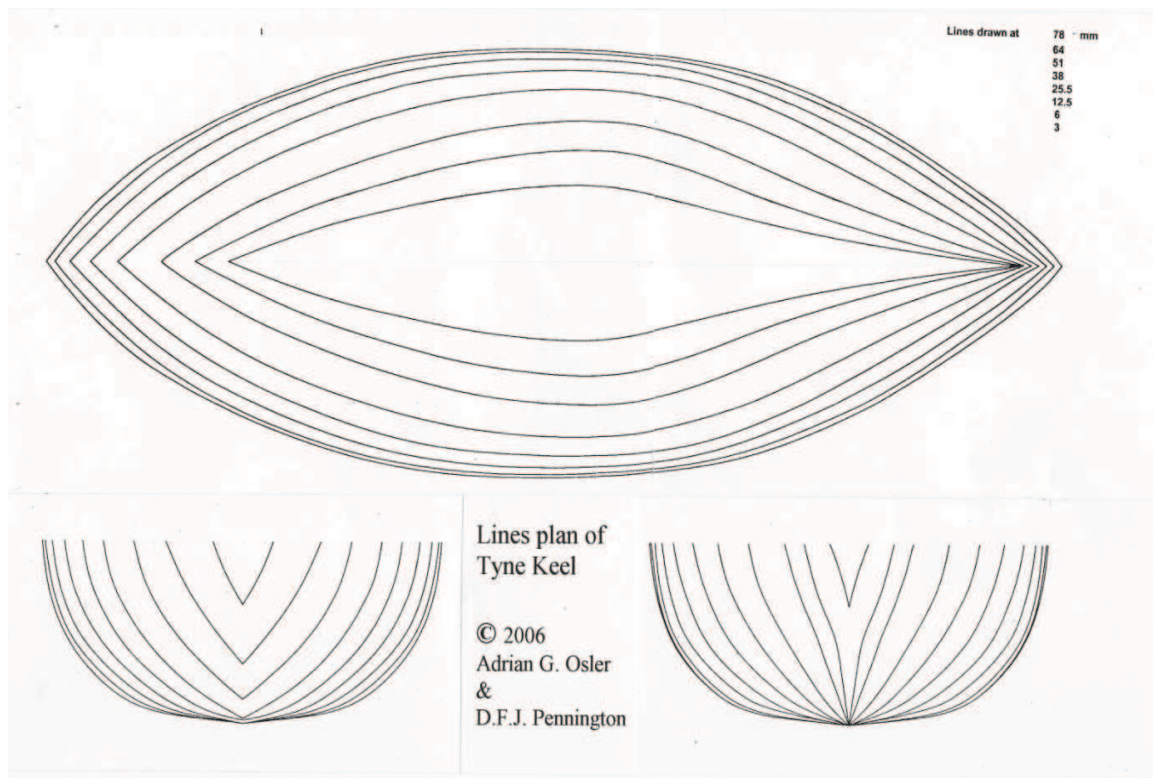


Figure 3.5 Line Diagram of a Keel after Viall.



Source: Dr Adrian Osler. *Personal Communication* .(E-mail 1 September 2010).

Figure 3.6. Line Plan of a Keel.

A more recent drawing of the keels lines was made from the same models in 2006 (Fig 3.6), with a view to a possible attempt at a modern reconstruction of a keel, which, to date, has not occurred.¹⁹ There are a number of illustrations in art works from the eighteenth and nineteenth centuries which clearly show keels at work on the river. These illustrate both the means of propulsion of the keels and the nature of the crew and pattern of loading.

The engraving by Samuel and Nathaniel Buck from 1745,²⁰ a detail of which is shown in Fig 3.7 clearly shows the keels having a crew of three keelmen and a skipper steering. In one case the keel is propelled by three men using a large single oar, and steered by the skipper using a single oar - the swape, over the stern. In the other keel the boat is propelled by a square sail and again steered by a skipper using a single steering

¹⁹ A. Osler, D. F. Pennington, *Personal Communication*, (e-mail, 14th December 2009).

²⁰ National Maritime Museum, Images ref. 275605472.

oar. The keels in the Buck engraving can both be seen to be loaded with coal in a hold in the centre of each boat.²¹

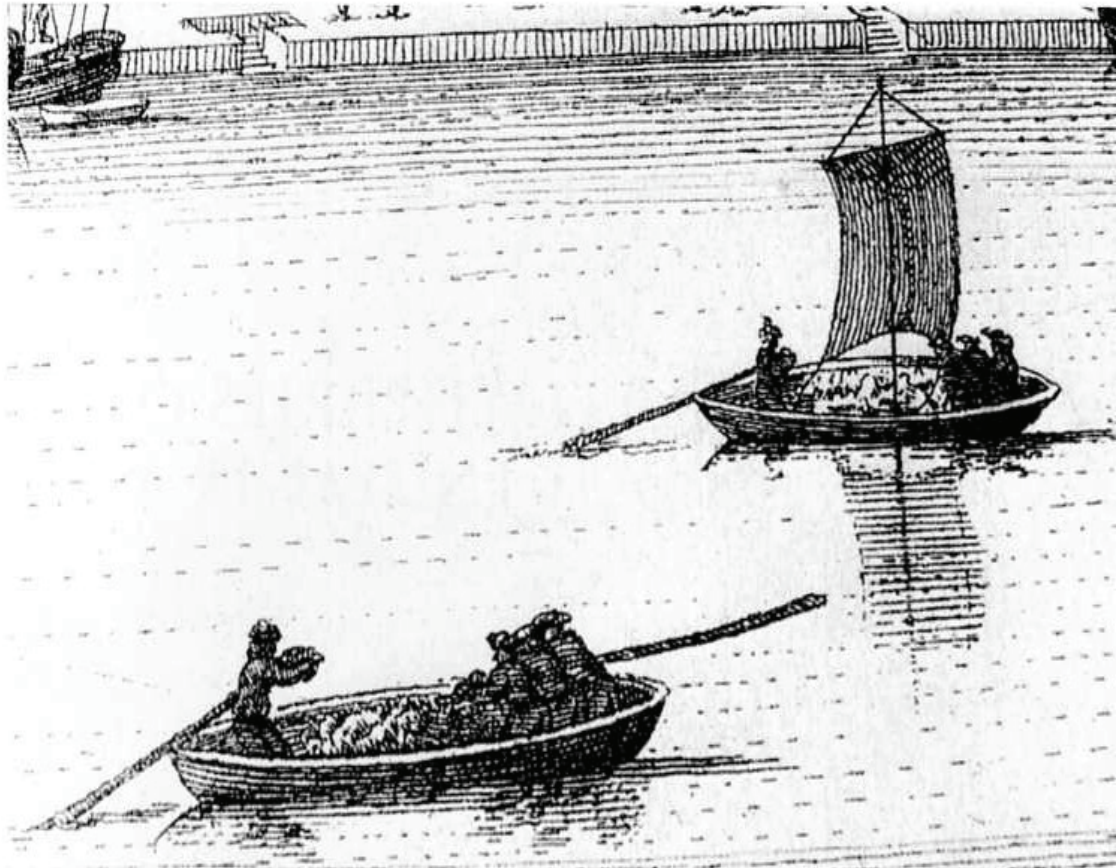


Figure 3.7 ‘The South East Prospect of Newcastle upon Tyne’,
by Samuel and Nathaniel Buck

In a later engraving from the nineteenth century (Fig. 3.8) a number of keels can be seen passing under the old Tyne Bridge, some of them under sail and some rowed. In each of them the coal can be seen piled high in the rather shallow hold of the keel, supported by surrounding boards. Carrying the coal in a shallow hold and piled up high above the deck made it easier for the keelmen to shovel the coal up into the seagoing colliers. A further element in this picture is the illustration of a keel ‘shooting’ the bridge by lowering its mast while under way and then raising it with the sail as the bridge is cleared.

²¹ Brand, *History and Antiquities*, Vol 2, 261-2; Charleton, *Newcastle Town*, 324-8; Ashton & Sykes, *The Coal Industry*, 196; Mitcalf ‘History of the Keelmen,’ 3; Nef, *Rise of the British Coal Industry*, Vol 1, 387-8;



Figure 3.8²² Newcastle and the Tyne Bridge in the Early Nineteenth Century

3.2.2 Coal Boats.

There were a number of boats that were apparently involved in the coal-carrying trade which were described as ‘coal boats’.²³ There are no boats of this description, either in the historical texts relating to Newcastle during this period, or in maritime historical texts. From the valuations of the coal boats that appear in the probate inventories they appear of similar value to keels.²⁴ In the previous chapter, using parish registers, it was observed that the nomenclature used to describe those working in the water trades changed such that between 1650 and 1750 the term ‘keelman’ progressively disappeared to be replaced by the term waterman. It is possible that a

²² Stammers, *Sailing Barges*, 32. This engraving illustrates in some detail the loading and sail configuration of the keels as they ‘shoot’ the old Tyne Bridge which was replaced in 1876. The artist is unknown.

²³ The description occurs in a number of Durham Probate Inventories including those of two Yeomen/Watermen, Matthew Grant (DPRI/1/Inv 1690) and John Whitehead (DPRI/1/ Inv 1696).

²⁴ Examples of the probate inventories listing coal-boats and their valuations may be seen later in this chapter.

similar change occurred in the terminology used to describe the boats used, with a partial disappearance of the term ‘keel’ to be replaced by the term ‘coal boat’

3.2.3 Chalder Boats.

Amongst the lists of boats appearing in the probate inventories was a group of boats called chalder boats, which may well have been used in the coal trade, but were clearly of a smaller carrying capacity than the keels, and yet their capacity was described using the number of chalders which they could carry, for example as a one chalder or a three chalder boat. As has been described earlier in this thesis, the chalder, or chaldron, was a measure used almost entirely in the coal trade. The smaller size of these boats may be inferred not just from the smaller number of chaldrons carried, but the lower valuations these boats were given in the inventories.²⁵ Once again there is no account of such boats appearing in historical texts relating to Newcastle or maritime historical texts such as Stammers.²⁶ Coal was used in significant quantities by many of the early industries along the Tyne such as lead and iron smelting and glass making. It is possible that such smaller coal-carrying craft were used to ferry coal to such industrial complexes, or to consumers based along higher tributaries of the Tyne which were too shallow to take a keel.

3.2.4 Wherrys.

These were, at this time, probably smaller than keels and in contrast to keels, were constructed using an overlapping plank, or clinker, construction. This was a simple and economical boat building technique, which had been used in Northumbria and elsewhere since the time of the Anglo-Saxon and Viking settlers, and was probably derived from boats used as small passenger ferries. References are made to the hire of a wherry for 9s 6d. in the records of the Masters and Mariners Society, also known as Trinity House, on the 14 September 1635 for work on the ground where the Low Light now stands at North Shields.²⁷ In the seventeenth and eighteenth centuries wherries were probably rather small and lowly craft as their value shown in probate inventories

²⁵ An example of the variations in size and value of chalder boats may be found in the Inventory of George Waugh (DPRI/1/Inv. 1668), in which it described a 7 chalder boat valued at £30, quite close in capacity and value to that of a keel, another at 6 chalders valued at £28, and another at 5 chalders valued at £10. In contrast an inventory of Richard Carr (DPRI/1 Inv. 1609) describes a 3 chalder boat valued at £3.

²⁶ Brand, *History and Antiquities*, Vol 2, 261-262; Charleton, *Newcastle Town*, 324-328; Ashton & Sykes, *The Coal Industry*, 196; Mitcalf “History of the Keelmen,” 3; Nef, *Rise of the British Coal Industry*, Vol 1, 387-88; Viall, “Tyne Keels”, 160-162; Stammers, *Sailing Barges*, 29-36.

²⁷ Mackenzie, *Descriptive and Historical Account*, 681.



Source: The Tyne wherry *Jane*, a drawing by Adrian Osler from a painting by John Scott, 1850. She had been registered at South Shields and had a Tonnage of 26 tons. Original in South Shields Museum, entitled '*Keels*'. Accession Number TWAM: B4575; Dr Adrian Osler, *Personal Communication*, (E-mail 1 September 2010).

Figure 3.9 Tyne Wherry *Jane*, circa 1850.

was always quite small when compared with those of keels.²⁸ Although smaller during the seventeenth and eighteenth centuries, boats described as wherrys in the nineteenth century became progressively larger. There are no surviving illustrations of a wherry, however a drawing has been made by Osler from a contemporary art work dating from 1850 as reproduced in Fig 3.9. As can be seen, the wherry, in contrast to most keels

²⁸ Probate Valuations of Tyne Wherries: Synceler (DPRI/1/Inv. 1613), £6; Langstaffe (DPRI/1/Inv. 1633), £4; Young (DPRI/1/Inv. 1679), £2; Gatenby (DPRI/1/Inv. 1706), £2; Taylor (DPRI/1/Inv. 1707), £11.



Figure 3.10²⁹ The Elswick No. 2, The last surviving Tyne wherry.

used a fore and aft sailing rig.³⁰ There are references in the records of the Company of Hostmen of wherrys being used, probably illicitly, to carry coals.³¹ During the nineteenth century wherrys eventually took over from keels as a form of lighter, often towed by steam-powered tugs. The later examples reached about 55 feet long, an example of which still exists in preserved form (Fig 3.10), and also as remnants of wrecks along the banks of the upper reaches of the navigable Tyne near Newburn.

²⁹ Stammers, *Sailing Barges*, 37. From Tyne Wear Archives Service.

³⁰ Charleton, *Newcastle Town*, 328; Stammers, *Sailing Barges*, 37-8. A fore and aft rig constitutes a mast with a foresail or jib in front of the mast and a mainsail behind the mast, in contrast to a square sail usually used by a keel which is a transversely mounted sail on a yard (or beam of wood) fixed to the front of the mast.

³¹ Dendy, 'Company of Hostmen', 198, There is a record of several wherrys being used by a ship's master Mr Hart to carry coal from a Mr Sivertops, a matter which was to be investigated by the Company. There is a subsequent reference some days later (203) of Mr Sivertops 'exercising the trade of a hostman, not being a free Burgess or free of the fraternity,' and the Company making efforts to restrain him from so-doing.

These wrecks of five remaining wherries have recently been subjected to an archaeological study providing an analysis of the construction of wherries in the later nineteenth and early twentieth centuries.³² Uncertainty exists about the construction of the other boats described in the inventories, however it is likely that many of them were of clinker overlapping planked construction, similar to many small boats that are seen on rivers and lakes in the present day.

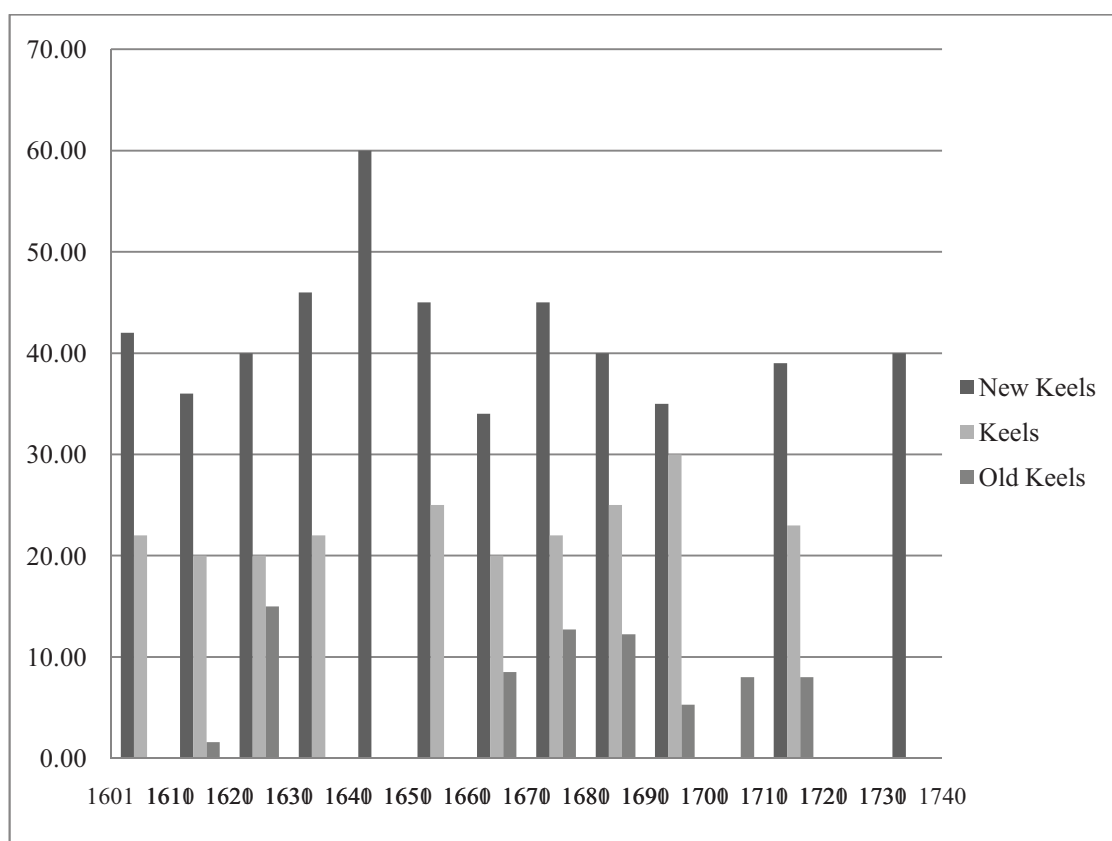


Figure 3.11.³³ Average Valuation (£) of River Tyne Keels by Decade

We are fortunate that in addition to giving us the numbers of working boats, the inventories also provide us with details of their values. The keels were listed at a number of different values, and were sometimes described as new keels, old keels or

³² Patrick Taylor and Alan Williams, 'The Newburn wherries: remnants of the River Tyne's industrial past', *Archaeologia Aeliana* Fifth Series, Vol XXXIX, (2010) 401-25.

³³ Using the retail price index to compare valuations of boats with 2008 equivalent values shows a range as follows: £10 in 1601 would be equivalent to £1,510 in 2008, and £10 in 1720 would be equivalent to £1,380. £60 in 1610 would equate to £9,050, and in 1720 to £8,280 in 2008; L.H. Officer "Purchasing Power of the British Pound from 1264 to the Present," *Measuring Worth*, 2009, <http://www.measuringworth.com/ppoweruk/>. Accessed 17th January 2011.

even wrecked keels, with a corresponding variation in their values, as shown in Fig. 3.11. It is perhaps surprising that the values of all types of keel varied so little throughout the period, showing, if anything, a modest increase in the middle of the seventeenth century, decreasing towards the eighteenth century. When comparing the values of keels of all types with the valuations of the other types of boat as shown in Fig 3.12 we can see that the values of coal boats in the second half of the seventeenth century were very similar to that of keels, tending to confirm that the term was used to describe a boat very similar to a keel. It is probable that the relative values of the different types of boats as described in the inventories might also be a reflection of the relative size and complexity of the boats.

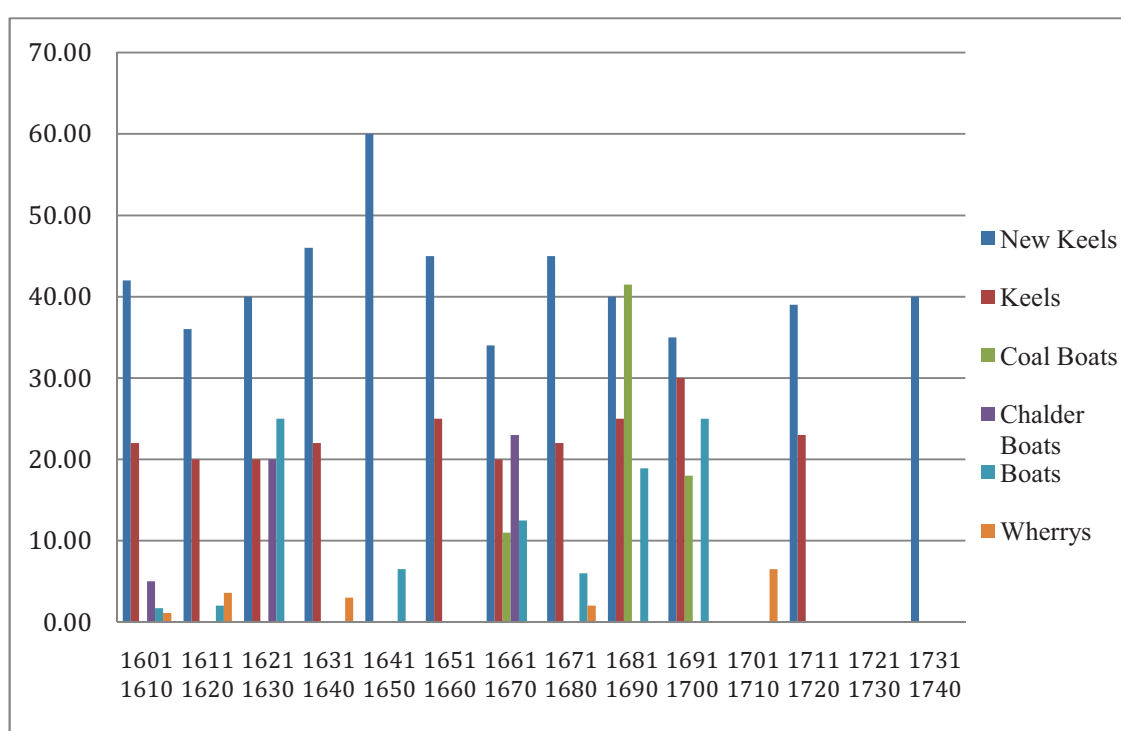


Figure 3.12 Average Valuations (£) of River Tyne Working Boats by Decade.

The basis upon which probate valuations of working boats on the River Tyne were made is uncertain. In all probability it was based on a perceived market value or potential auction price.³⁴ The mechanisms by which the market price of a boat such as a

³⁴ Mark Overton, 'Prices from Probate Inventories', in *When Death do us Part*, Ed. T. Arkell, N. Evans, N. Goose (Oxford: Leopards Head Press, 2000), 121-41; L. Weatherill, *Consumer Behaviour and Material Culture; Newcastle Courant*, 237, January 2 1725, 11. Although advertisements for the sale of keels and lighters appear in the local Newspaper, there is no evidence of an asking price, and appear to be the subject of negotiation with the advertiser, in this case: 'Four Keels or Lighters, in good repair and

keel was derived are not clear. It is likely that it was a combination of the costs of the materials used to construct it plus an element related to the time and skill of the shipwrights and boat builders, allowing them to make a decent profit. There is little evidence to say whether or not there was an element of either scarcity or excess which would have tended to increase or decrease the prices of working boats in a competitive market. It is interesting to note that *The London Tradesman* in 1747 suggests that a Thames Waterman, on completion of his apprenticeship, could purchase a boat for between £12 and £17, which is much lower than the valuations of Tyne keels that we have found. Whether this difference is due to differences in size or complexity remains unclear.³⁵ One might speculate that such differences between the values of the Thames and the Tyne river craft were a reflection of a greater need for smaller simpler boats to provide passenger transport on the London Thames.

3.3 Boat Ownership from Probate Inventories.

The ownership of working boats on the river was spread widely across members of 23 different occupations, (Table 3.3). The hostmen are a group worthy of special mention. As we have already seen, they were the agents who managed the processes involved in the sale of coal from the arrival of the collier ship to its final clearance and departure loaded with coal and all taxes paid. This included managing the movement of coal in keels from the staiths to the ships at the mouth of the river. To be a hostman one had to be a member of the Hostman's Company. This was a very prestigious position and was actively sought after by many of the merchants in the city of Newcastle. Many of those who had inventories in which the occupation was described as a merchant were also listed as hostmen in the lists of admissions as members of the Hostman's Company.³⁶ For the purposes of this study those merchants so listed have been included in the numbers as hostmen and subtracted from the list of merchants.

condition, now in the work of Mr John Robinson jun., Fitter are to be sold. Enquire of Mr Thomas Burdus, Notary Public who will treat with any persons about the sale thereof.'

³⁵ R. Campbell, *The London Tradesman*, (London: T. Gardener, 1747, Reprinted David and Charles 1969), Appendix Section 26, Watermen, 327.

³⁶ Dendy, 'Company of Hostmen', 265-84; Charleton, *Newcastle Town*, 256; Middlebrook, *Newcastle upon Tyne*, 67; Hatcher, *The History of the British Coal Industry*, 474.

<u>Occupation.</u>	<u>Number of individuals.</u>	<u>Boats owned.</u>
Baker & Brewer	1	1
Cooper	1	1
Cutler	1	1
Ferryman	1	1
Fisherman	2	4
Gentleman	5	17
Hostman	18	99
House Carpenter	1	1
Keelman	1	1
Knight	3	25
Mariner	1	1
Mason	1	1
Master & Mariner	1	3
Merchant	12	32
Sailmaker	1	1
Shipwright	27	119
Skipper	3	3
Staithman	2	2
Tailor	1	2
Unknown	15	32
Waterman	8	13
Widow	5	26
Yeoman	7	10

Table 3.3 Occupation and Working Boat Ownership

The majority of the 23 occupations were owners of one or two boats of varying type. Ownership of most of the working boats such as keels was concentrated in the hands of two main groups, the hostmen, and the largest single group of owners who were the shipwrights who owned substantially more than any other occupational group, with 27 shipwrights owning 119 keels between them. The group of merchants, knights and gentlemen were together a significant though much smaller group. This concentration of boat ownership among shipwrights on the River Tyne has not been described before, and the large number would suggest that these boats were not just being built speculatively in the hope that they would be bought by an end user such as a hostman or merchant, but would imply the existence of a trade in the hire of keels to end users, the ownership being kept by the builder.

3.4 Ship Ownership from Probate Inventories.

Ownership of cargo ships is frequently described in some detail in probate inventories. It was common to include the name of the master, and the fraction owned, usually up to sixty-fourths, with a valuation of the fraction owned, enabling an estimate of the value of the entire ship to be made. Later in the eighteenth century when registration of cargo ships became a requirement, this information would have been included in the Register of Shipping.³⁷ The data shown in Fig. 3.13 show the pattern of ship ownership between 1600 and 1720, which indicates an increase in ship ownership being reported in the latter half of the seventeenth century. The extent to which this is a real increase or a reflection of the larger number of inventories which remains uncertain. Unfortunately the tonnage of a ship was rarely included making it very difficult to estimate the size of a ship, other than by assuming that value increased with size making the assumption that the most valuable ships were the largest. The values of the ships are displayed by decades in Table 3.4, including an adjustment to show what the equivalent values were likely to have been in the present day.

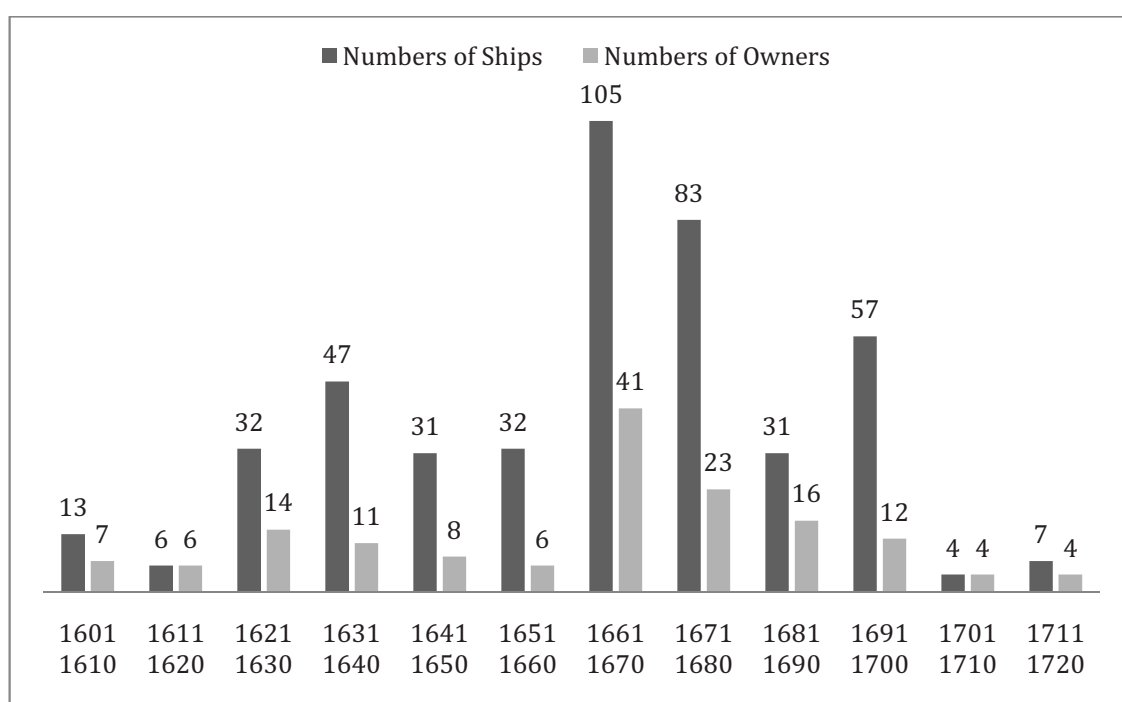


Figure 3.13 Ship Ownership by Decade.

³⁷ Stammers, *Sailing Barges*, 34; Ville, 'Shipping in Newcastle', 60-1.

Because the distribution of values was irregular the data has been expressed as a median with the higher and lower extremes of valuation. The range of ships described is very wide with the lowest value ships probably being no larger than a keel,³⁸ whereas the highest value, and by implication the largest vessels were likely to have been long-distance heavy cargo ships. Whereas the median value of the ships varied little throughout, there was a steady increase in the value and therefore the size of the large ships, smaller ones probably being small coasting vessels

<u>Decade.</u>	<u>Number of Ships.</u>	<u>Estimated Min. Value.</u>	<u>Estimated Median.</u>	<u>Estimated Max. Value</u>
1601 – 1610	12	£13 (£1,980)	£240 (£36,600)	£800 (£122,000)
1611 – 1620	7	£40 (£1,100)	£100 (£15,800)	£216 (£34,200)
1621 – 1630	30	£9 (£1,160)	£254 (£32,800)	£1,280 (£165,000)
1631 – 1640	48	£12 (£1,690)	£430 (£60,400)	£1,472 (£207,000)
1641 – 1650	27	£240 (£22,000)	£720 (£65,900)	£1,600 (£146,000)
1651 – 1660	32	£160 (£18,000)	£568 (£63,700)	£1,600 (£180,000)
1661 – 1670	97	£56 (£7,450)	£400 (£53,200)	£2,400 (£319,000)
1671 – 1680	75	£60 (£7,900)	£384 (£50,600)	£2,488 (£328,000)
1681 – 1690	25	£48 (£7,290)	£176 (£26,700)	£960 (£146,000)
1691 – 1700	15	£50 (£6,780)	£640 (£86,800)	£2,912 (£395,000)
1701 – 1710	2	£24 (£2,860)		£288 (£34,400)

Source: ^a. Prices adjusted to 2009 levels.³⁹

Table 3.4 Ship Valuations from Probate Inventories by Decade
(2008 Equivalent Values)^a

Alternative perspectives on the valuations of shipping in the seventeenth and eighteenth centuries are difficult to obtain. Robin Pearson examined insurance valuations in the eighteenth century and noted that the Sun Fire Office had an agent in Newcastle from 1720 to 1793. As the insurers usually made the owner carry 25% of the risk himself, the value in the policy registers was always unlikely to be the full market value or replacement value of a ship.⁴⁰ In the light of this values of shipping from the insurance market are likely to be of little value to us in this study.

³⁸ Stammers, *Sailing Barges*, 34.

³⁹ L.H. Officer, 'Purchasing Power of the British Pound from 1264 to the Present', *Measuring Worth*, (2009), <http://www.measuringworth.com/ppoweruk/>,

⁴⁰ Professor Robin Pearson, *Personal Communication*, 06/01/2009; Mark Freeman, Robin Pearson, James Taylor, 'Technological Change and the Governance of Joint-Stock Enterprise in the Early Nineteenth Century: The case of Coastal Shipping', *Business History* 49, 5 (2007) 573-594.

Names of ships which are shown in probate inventories from Newcastle and parishes along the Tyne have a tendency to recur over a period of some years in inventories of a number of different individuals, as illustrated by Tables 3.5 and 3.6. Ships are of necessity fairly robust and would, if not subject to the risks of shipwreck and warfare, normally have a working life of up to 50 years, making it possible to track their ownership through probate records. The example shown illustrates owners of fractions of ownership of the ‘John of Newcastle’ with estimates of the total value of the ship, which would be excluding cargo. It is notable that there is an increase in value between 1636 and 1645, which would seem appropriate for inflation at that time. However in 1660 the value had fallen to less than 30% of its former value, which may indicate that with the passage of time it had become more decrepit and getting towards the end of its useful life, or alternatively the original ship has been lost and replaced with a smaller ship of the same name of lower value.⁴¹

<u>Owner</u>	<u>Year</u>	<u>Master</u>	<u>Share</u>	<u>Value</u>	<u>Total Estimated Value</u>
Reed ^a	1636	N/A	1/8	£45	£360
Lawson ^b	1643	Thomas Awbon	1/16	£32	£520
Lambton ^c	1645	Thomas Awbone	1/16	£36	£576
Bee ^d	1660	N/A	1/16	£10	£160
Milburne ^e	1698	Samuel Cramlington	1/16	N/A	N/A

^aSources: Durham Probate Inventories, ^a DPRI/1/Inv. 1636; ^b DPRI/1/Inv. 1643; ^c DPRI/1/Inv. 1645; ^d DPRI/1/Inv. 1660; ^e DPRI/1/Inv. 1698.

Table 3.5 Shares and Valuations of Ownership of the Ship ‘John of Newcastle’.

The patterns of ownership of the ship ‘Tryall of Newcastle’ are a little more consistent, over a period of thirty years five owners have been identified, four of whom have what appear to be meaningful valuations that are within the ranges expected for the period as illustrated in Table 3.6. This data appears to confirm an apparent useful life expectancy of a ship to be at least thirty years and also that the master is likely to remain

⁴¹ Hausemann, ‘Size and Profitability of English Colliers in the Eighteenth Century’, *Business History Review*, 51 (1977) 460-73; Simon P. Ville, ‘Size and Profitability of English Colliers in the Eighteenth Century, A Re-appraisal’, *Business History Review* 58, 1 (1984), 103-20. In this re-appraisal Ville describes the recently discovered records of the Henley Family following their fleet of ships over some years and emphasising the increased profitability that came from a high degree of vertical integration; William J. Hausemann, ‘Profitability of English Colliers in the Eighteenth Century, Reply to a Re-appraisal,’ *Business History Review* 58, 1 (1984) 121-125; Simon P. Ville, ‘Patterns of Shipping Investment in the Port of Newcastle upon Tyne, 1750-1850’, *Northern History* 25 (1989) 203-21. Ville, ‘Shipping in Newcastle 1780-1800’, 60-77.

the same for a significant period, perhaps as a result of many masters owning shares in the ships which they commanded.

<u>Owner</u>	<u>Year</u>	<u>Master</u>	<u>Share</u>	<u>Value</u>	<u>Total Estimated Value</u>
Lawson ^a	1643	Thomas Selby	1/16	£23	£375
Linton ^b	1664	Thomas Ayre	Small Part	£7	
Pithie ^c	1670	Leonard Middleton	1/32	£12	£384
Newton ^d	1671	Leonard Middleton	1/32	£15	£480
Cooke ^e	1673	Leonard Middleton	1/32	£10	£320

Sources: Durham Probate Inventories, ^a DPRI/1/Inv. 1643; ^b DPRI/1/Inv. 1664; ^c DPRI/1/Inv. 1670; ^d DPRI/1/Inv. 1671; ^e DPRI/1/Inv. 1673.

Table 3.6 Shares and Valuations of Ownership of the Ship ‘Tryall of Newcastle’

The patterns of occupation amongst those who showed evidence of ship ownership in their probate inventories are illustrated in Fig. 3.14. There is an even wider spectrum of occupations owning ships than occurred with working boats, with 25 occupations being identified. Once more the main occupations were Hostmen, Shipwrights, Merchants and Masters and Mariners. It was the custom for most of masters of ships to own a share of the ship they commanded, and consequently a share in the profits. The wide range of people within occupations other than those related to the sea and the water trades would imply that their ownership could be a speculative investment with a view to sharing in the profits.⁴² There were a smaller group who showed evidence of both ship and boat ownership in their inventories, the range of these is shown in Table 3.7. This data once more emphasises the dominance of hostmen and shipwrights among this group of owners. Notwithstanding the large numbers of ships and boats owned by some of these groups, when looked at in the context of each occupational group as a whole we can see that boat and ship ownership occurred in a minority of all groups (Table 3.8). Further examination of some of these groups is appropriate:

⁴² It is notable that there were a significant number of widows amongst those who owned shares in ships, and it is likely that many of these were as a result of inheritance from a deceased husband whose occupation may have been related to trade and the sea. It is also possible that a number of owners of shares in ships whose occupations are not normally associated with ship ownership, gained their shares as a result of marriage to a ship owning widow. The role of women in business in the seventeenth and eighteenth centuries is well described by Earle in his chapter on ‘Women and Business’ in his book: Peter Earle, *The Making of the English Middle Class; Business Society and Family Life in London, 1670-1730*, (London: Methuen, 1989) 158-166

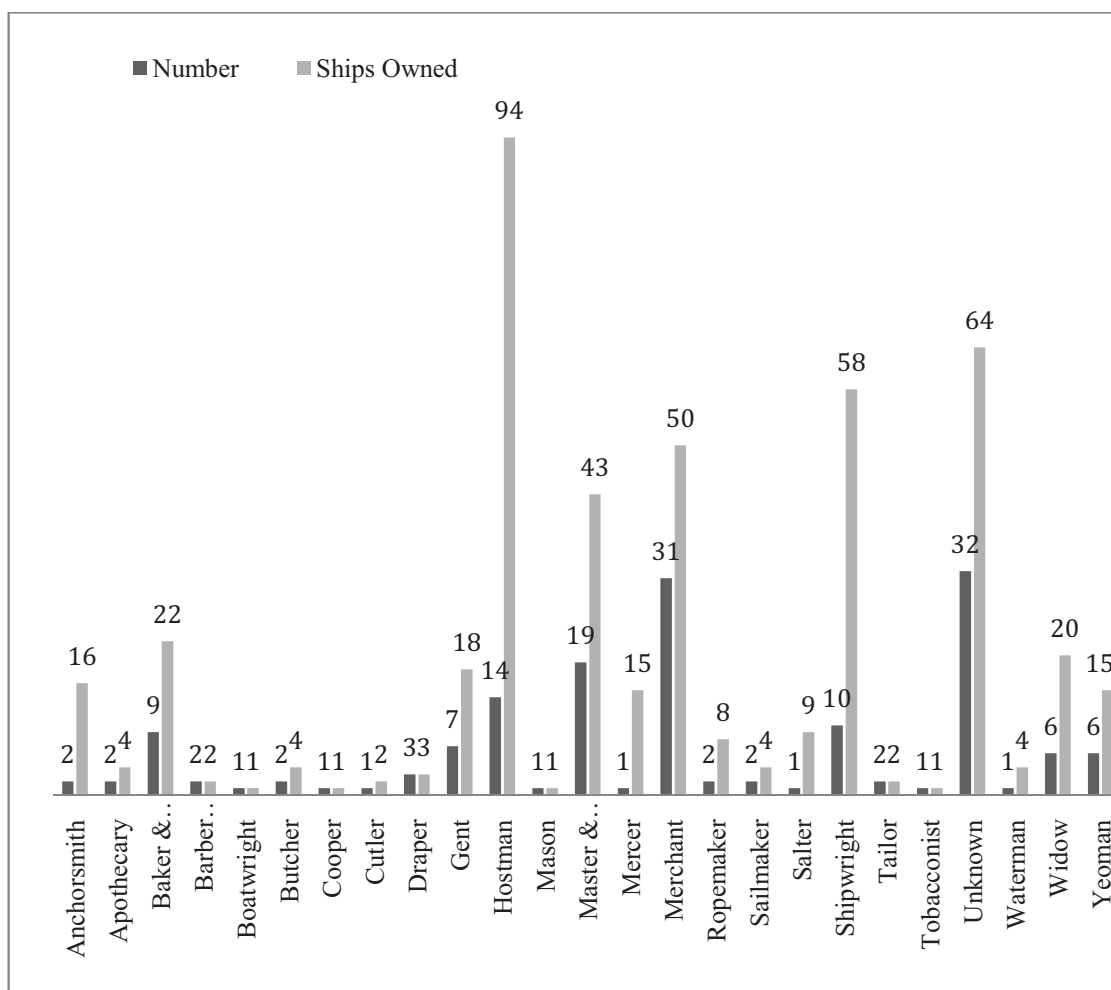


Figure 3.14 Occupation and Ship Ownership

Occupation	Number	Boats and Ships Owned.
Hostmen	10	144
Shipwrights	6	86
Gentlemen	4	23
Merchants	4	19
Yeomen	3	14
Widows	2	5
Watermen	1	5
Other Trades	6	13

Note: Other Trades included a Baker & Brewer, a Cooper and a Cutler, and in three cases the trades were unknown

Table 3.7 Occupation and Ownership of both Ships and Boats.

<u>Occupation.</u>	<u>Number.</u>	<u>Owners.</u>	<u>Non-owners.</u>	<u>% Owners.</u>
Merchants	208	43	165	20%
Hostmen	93	32	61	34%
Shipwrights	97	38	59	39%
Water Trades	29	12	17	41%

Table 3.8 Ownership of Boats or Ships

3.4.1 *Water Tradesmen.*

It is important to be clear that it was extremely uncommon for a water tradesman to have sufficient wealth to require the preparation of a probate inventory at the time of death. Out of the many thousands of watermen and keelmen who must have lived between 1600 and 1720 there were only 42 surviving inventories, and only 14 of those showed evidence of boat ownership. It is notable that the mean inventory value was substantially higher in the boat-owning water tradesmen at £26 (Present day equivalent of value in 1700 is £3,530⁴³), than in those who did not own boats who were valued at £9 (£1,220), (Table 3.9). In the sixteenth century ownership of property, including boats by keelmen was more common as can be seen from the will and inventory of John Robinson dated May 11th 1592, a Keelman of All Hallows parish: ⁴⁴

To Mr Raphe Jennisone the half of my carvel lighter, whereof James Bell hath the other half, in consideration, that he shall pay for my mortuarie, and stand a good friend and maister unto my wife. To Katherine my wife, all my houses, that I have in Sandgate, during all the term of years that I have in my two leases yet to come. If it shall please God to call my wife to His mercy, before the end of my two leases, then I do give unto my maister, Raphe Jennisone, my four slait houses, wherein I now dwell; and my other two thatched houses to James Bell after my wife her decease. To my wife my clinker lighter, with all her gear. The rest of my goods to my foresaid wife.' Inventory: 'One clinker lighter, with her furniture, that is 1 anker and a cable, and a mast, and a sail, and a line, and 5 shovels, 2 hookes, 2 oars, a swape, and 5 planks, and 2 half planks, before the dower, 24l. half a carvel lighter, with her furniture, that is, 1 oar and a swape. And an old line, with the planks in the waist.

⁴³ Officer 'Purchasing Power', (2009).

⁴⁴ W. Greenwell, "Durham Wills and Inventories, Part II." *Surtees Society*, 38 (1860), 414.

Henrie Robinsone, May 11th 1592. of Newcastle upon Tyne, Keillman of the Parish of All Hallows.

<u>Occupation.</u>	<u>Number.</u>	<u>Boat &/or Ship Owners.</u>	<u>Non Owners.</u>	<u>All.</u>	<u>Estate</u>	<u>Range</u>
All Inventories	796	£609 (£82,600)	£195 (£26,400)	£316	£9687 ⁴⁵	- £0
Merchants	262	£1125 (£153,000)	£399 (£54,100)	£588	£9687	- £3
Hostmen	93	£937 (£127,000)	£215 (£29,200)	£432	£3768	- £0
Shipwrights	97	£473 (£64,100)	£40 (£5,420)	£209	£2771	- £1
Water Tradesmen	42	£26 (£3,530)	£9 (£1,220)	£14	£103	- £0
Masters & Mariners	36	£225 (£30,500)	£35 (£4,750)	£131	£950	- £1
Widows	35	£239 (£32,400)	£130 (£17,600)	£162	£686	- £3

Source: Figures in brackets indicate present day equivalent values:
Officer, 'Purchasing Power', 2009.

Table 3.9 Mean Occupation Related Estate Sizes in Probate Inventories.

There appears to have been a very small group of those immediately involved in the water trades during the seventeenth and eighteenth centuries, the skippers and watermen, who also owned both boats and ships. The ownership of boats was mainly confined to those described as skippers and watermen, although there were a few fishermen and a ferryman who also owned a boat. The occupational groups are slightly confused by some watermen also being described as yeomen. There are two particularly well preserved probate inventories which can be used as case studies of boat-owning water tradesmen. The first is the inventory of Matthew Grant (Fig. 3.15), which is dated the seventh of November 1690. Grant is described in the inventory as a yeoman but can be found in the All Saints parish burial register described as a waterman. The inventory describes his very modest possessions. At the end of the list of his domestic property come what is described as:

One Coalboat or Lightner whereof Rich: Bowey is Skipper
Together with all her furniture. £21-0-0d

In addition at the end of the inventory there is an item:

One moiety of a Coalboat £02-10-0d

⁴⁵ This was the largest inventory in the study at £9687, and would have been valued today at about £1,310,000; Officer, 'Purchasing Power', (2009).

1690/62/1

A true and perfect Inventory of all and singular
the Goods and Chattels wherof Matthew Grant late of
the County and County of Northumberland upon this 14th day of
the 1st of November Anno Dⁿⁱ 1690. By William & Maria
their Chieles of Christ Church in the City of Durham
King & Doctor Durham Shipwright & Joshua
Elliot as followeth.

Inp ^t : One Table, One forme, One small Table, flower wood Chairs, Two Joint stools, . . .	£ 00 : 09 : 00
It ^m : One Dresser, One Cupboard, One Chest . . .	00 : 15 : 00
It ^m : One large Cupboard . . .	00 : 12 : 00
It ^m : Two Close Bedsteads, One feather bed, Two pillows, One Bolster, One Coverlett, One paire of Sheets, One small florid bed, Two pillows, One Wapping, . . .	01 : 10 : 00
It ^m : One paire of Linn Sheets, Two paire of Course Sheets, Six pillowcases, Six Napkins, One short Table Cloath . . .	00 : 08 : 00
It ^m : Two pewster dishes, One small brass Candelstick, Two Cushions . . .	00 : 03 : 00
It ^m : One Iron post, Two old pannes, . . .	00 : 03 : 00
It ^m : One small Iron Chimney, One paire of Bars, One paire of Cranks, One Spitt, One paire of Rarts, One brass Sawmiller, One frying pann, One paire of Tonges, One porr. It ^m : Twelve Dredgers, One piggon, One stand . . .	00 : 10 : 06 00 : 00 : 08
It ^m : One Coalboat or lightner wherof Rich: Bowery is Skipper Together with all her furniture . . .	21 : 00 : 00
It ^m : The Deeds pinks & Apparels . . .	01 : 00 : 00
It ^m : One Mothy of a Coalboat . . .	£ 26 : 11 : 2
	02 : 10 : 00
	<u>£ 29 : 1 : 2</u>

DURHAM UNIVERSITY
LIBRARY
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reproduced without
consent of library
or other and library

Source: Durham University Library, Matthew Grant DPRI/1/Inv 1690.

Figure 3.15 Probate Inventory of Matthew Grant.

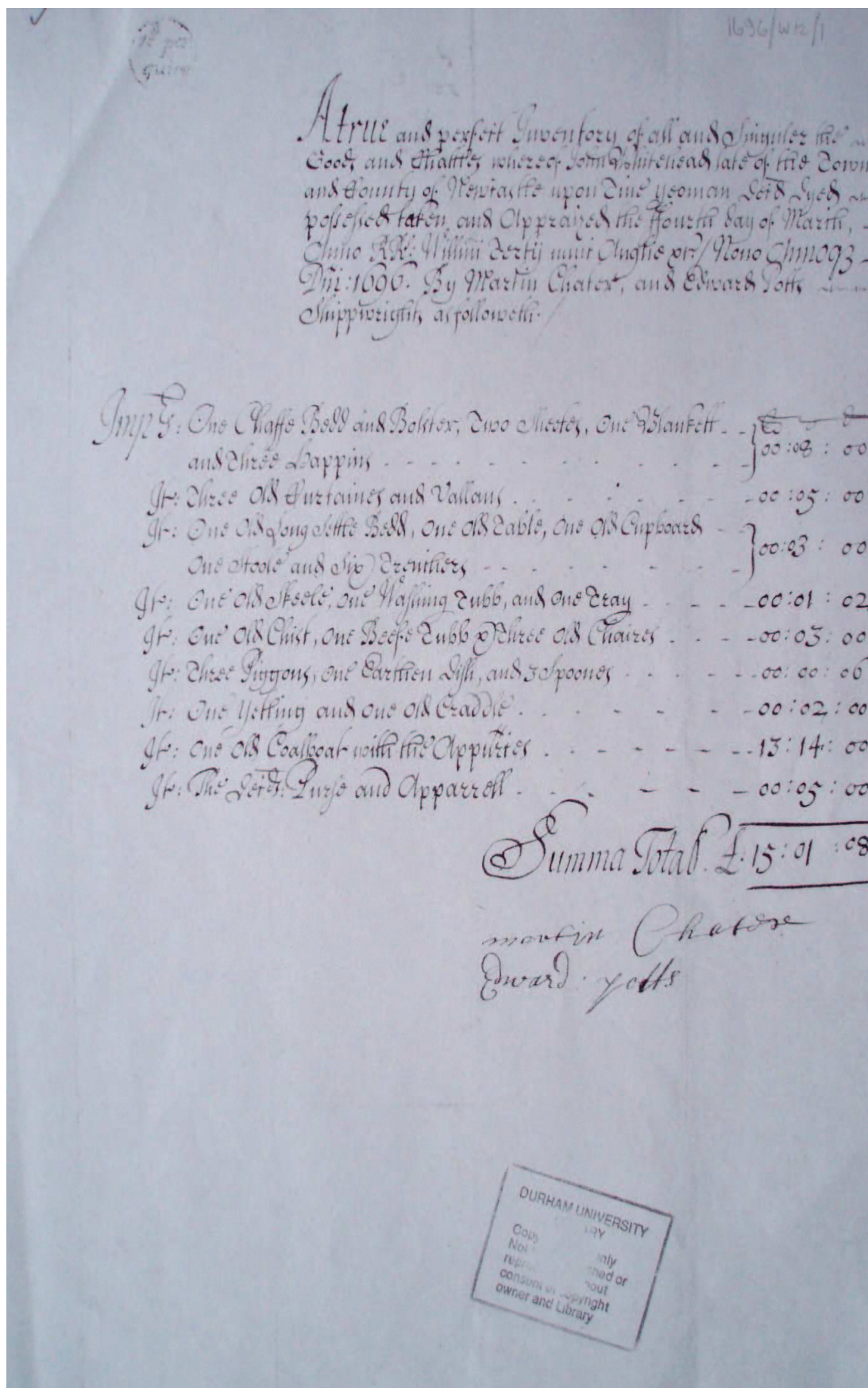
This description of a boat as a coal boat almost certainly represents a keel by another name, particularly because the valuation at £21 is almost identical to the values placed on keels in other inventories of a similar date. The change in nomenclature is of interest in view of the apparent disappearance of the term ‘keelman’ to be replaced by ‘waterman’ in parish registers at the same time. The ownership of this coalboat by Matthew Grant represents over seventy five percent of his entire estate which was valued at £29-01-02d, the value of his residual goods was £5-11-2d which was barely enough for his family to need to prepare an inventory. An indicator of the cohesiveness of the different occupations in his community is demonstrated by the inclusion of Roger Durham, a shipwright, as one of the group who prepared his inventory. As there was no list of outstanding debts attached to the inventory it is more likely that this was a duty undertaken by a friend or professional acquaintance than a creditor looking for recompense.

A second case study is of the probate inventory of John Whitehead which was prepared on the fourth of March 1696 (Fig. 3.16). This is an even more modest inventory than that of Matthew Grant and once again describes him as a Yeoman who again appears in the All Saints parish burial register described as a waterman.⁴⁶ The majority of the items in the inventory are small domestic items, however towards the end is listed his boat:

‘One Old Coalboat with the Appurtenances £13-14-0d’

The total value of the estate is £15-01-08d so the old boat represents over ninety percent of his whole estate, with the remainder of his property being valued at only £1-7-8d. Once again we find that the valuation of his old coalboat matches almost exactly that of equivalent old keels, tending to confirm the association between keels and coalboats. It is interesting to note that like the inventory of Matthew Grant, John Whitehead’s inventory was also prepared by a shipwright. Once again this may have been a reflection of friendships between trades, but may also imply an interest by the shipwright in the estate, notwithstanding the absence of any explicit debts owed to him in the inventory.

⁴⁶ Newcastle All saints Burial Register, NCL/LS. L929. 3/N536.



Source: Durham University Library, John Whitehead, DPRI/1 Inv 1696.

Figure 3.16 Probate Inventory of John Whitehead

3.4.2 Shipwrights.

One of the largest groups of owners of working boats and ships were the shipwrights (Fig. 3.17). Although the ownership levels were very high compared with other trades and professions, it was clear that not all shipwrights owned boats or ships, indeed out of 97 inventories from shipwrights between 1600 and 1720, only 38 (39%) owned boats or ships, with 27 (28%) owning 119 working boats and 10 (10%) owning shares in 58 ships. It is possible that one of the reasons for this could be that all of those who described themselves as shipwrights may not have been of the same status. Skilled workers who worked in a shipyard owned by another shipwright may still have described themselves as a shipwright, but clearly owned neither the stock or the boats, whereas the owner of the yard, stock and vessels who also described himself as a shipwright was clearly of different status and relative wealth.

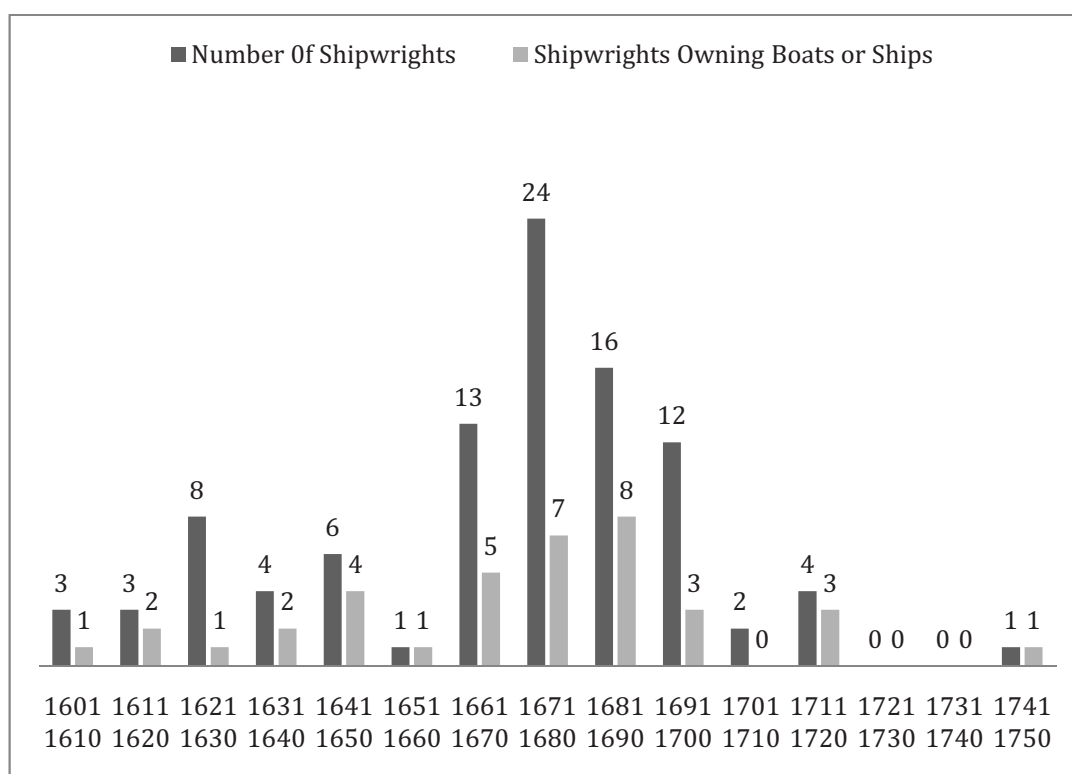


Figure 3.17 Boat and Ship ownership by Shipwrights and like Trades by Decade.

A further case worthy of study is that of Thomas Campion, a shipwright whose inventory was dated 1720. He owned thirteen keels valued at £39 each, totalling £507,

with a total estate of £1934, (£267,000 at 2008 values⁴⁷). His inventory included a large amount of boat-building supplies:

Unfinished Keel on stocks and other timber belonging to Thomas
Campion: Timber great and small £70-0-0; Planks £41-0-0; Stabbs
£2-4-6; Keel gunwale £5-2-8; New bottom for Keel £2-0-0; Keel on stocks
part built £20-0-0; Spars for Keel oars and mast £9-12-0; Deals
£3-12-0; Other bits £1-15-0, £2-10-0, £2-11-0; Stocks for Keel £0-15-0.⁴⁸

It is understandable that a shipwright might keep a share in the ships that he built as an investment, with a view to sharing in the profits of its trade. However the ownership of large numbers of river craft such as keels is a little more difficult to understand, unless there was a trade in hiring keels to end users such as hostmen. Little evidence of such a trade appears in existing literature, however it does seem implausible that shipwrights would be building such a large number of keels speculatively and carrying such a large capital risk without the prospect either of an early sale or the ability to generate and income from a boat-hiring trade.

In an effort to find evidence of shipwrights making a business out of hiring keels to other traders, the records of the Company of Shipwrights have been investigated. In the Minutes and Order Book of the Company of Shipwrights there is an Order dated the 24th June 1731 which clearly states the rules and fees to be charged by shipwrights for the let or hire of keels:

It is further ordered by the Consent and upon the Consideration aforsd. that no Brother of the sd. Society Free or to be Free of the sd. Society or Widdow or Widdows as aforsd. shall at any time or times hereafter Directly or indirectly lett out to ffarm any New Keel or keels fitted with furniture by the year greater or lesser term for less than fourteen Pounds a Year or proportionable in relation to time after the same Rent upon pain & penalty of Six shillings and eight pence a week to be forfeited for every week such Keel or Keels is or are left to Farm Contrary to the true Meaning of these presents by every Brother Widdow or Widdows So letting to Farm and the said penalty to be paid upon demand to the Steward for the time being of the Society to the use of the sd. Society.⁴⁹

⁴⁷ Officer, 'Purchasing Power', (2009).

⁴⁸ Durham University Library, DPRI/1/Inv. 1720.

⁴⁹ *Minutes and Orders of the Company of Shipwrights*, TWAM GU/SH/4/1; D.J. Rowe, "The Records of the Company of Shipwrights of Newcastle upon Tyne, 1622-1967," *Surtees Society*, 181 (1966) 29.

The level of annual rent suggested by this order of the shipwright's company of £14 per year gives an idea of the potential profit from renting a keel. If we take the value of a new keel as indicated by the probate inventories (Fig. 3.11) at £40 and assume that this represented the cost to the shipwright of building the keel, then at the end of three years the shipwright would have more than recouped the costs of building and be starting to make a profit. In reality the real cost to the shipwright of building a keel would have been less than £40 as the new price would have inevitably included his profit margin, meaning that the profit to a shipwright who was also a hirer of keels would appear even earlier in the first three year period. If these figures are applied to Thomas Campion, whose inventory was discussed earlier, we find that with his 13 keels valued at £39 each, at a rent of £14 each year, each keel would be fully paid for and generating a profit after 2.8 years, giving an annual income of £182 from his 13 keels. This level of income, when added to his income from any other ship and boatbuilding activities he might have had goes some way towards accounting for the size of his estate at just under £2000 and would have underpinned the underlying financial security of his business.⁵⁰ This recognition that a significant part of the trade of a shipwright had been expanded to include the hire of the products of his labours to other end users further emphasizes their place as key players in the business networks that underpinned the coal trade.

An example of the tensions which existed between the different trades working along the river were the frequent disputes between the shipwrights, the hostmen and other boat and ship owners about the charges made by the shipwrights for their work. There are a number of references in the hostmen's records in 1719 to shipwrights being paid extravagant wages 'exceeding those of any other part of the country.' In addition they insisted on using their own supplies of timber for their work for which they charged far more than it would have cost the boat owner to obtain the timber himself.⁵¹ As we have already seen earlier in the thesis, in the cases of Ralph Gardener and Thomas Cliffe, the shipwrights were assiduous in protecting and enhancing their own interests.⁵²

⁵⁰ Peter Earle, *The Making of the English Middle Class: Business, Society and Family Life in London 1660-1730*, (London: Methuen, 1989), 112-23. Earle emphasises the importance of maintaining adequate cash flow in ensuring the survival of a business, characteristics that are exemplified by Thomas Campion as he maximises every possible source of income from his shipbuilding skills.

⁵¹ Dendy, 'Company of Hostmen', 184-5.

⁵² Howell, *Monopoly on the Tyne*; Original papers in TWAM.

3.4.3 Merchants.

It would be expected that merchants might have a significant role in the ownership of those ships that traded into Newcastle and the Tyne, or the river craft that facilitated the trade. Although a number of inventories of merchants do show evidence of boat and ship ownership the proportion is relatively small when compared with shipwrights. 208 inventories of merchants, who were not also hostmen, remain from the years between 1600 and 1740, and of those 43 (20%) show evidence of boat or ship ownership, leaving 165 who did not own boats or ships (Fig. 3.18). It is possible that this is partly because a significant number of the merchants who did not own boats themselves took advantage of their ability to rent them from the shipwrights. It is also important to recognise that the generic term merchant covers a wide range of people who, although all merchants, varied substantially in the size and nature of their business. For example many of those merchants may have traded locally and had only a small export or import business, with no incentive to invest resources in ship or boat ownership. Alternatively, there were a number of very substantial merchants whose trading links extended throughout Britain and abroad, for whom investment in shipping was a natural complement to the rest of their business.

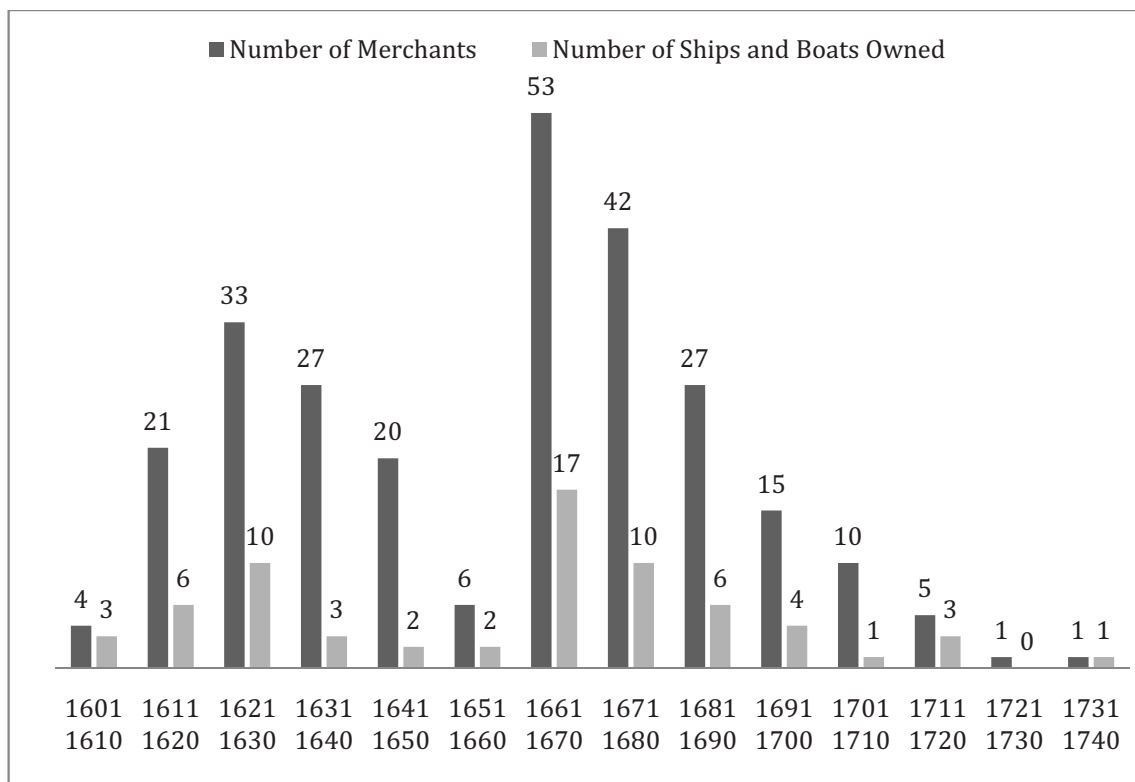


Figure 3.18 Boat and Ship Ownership by Merchants by Decade.

3.4.4 *Hostmen.*

The hostmen, as tradesmen who acted as agents between the owners of the coal mines and the masters of coal carrying ships, were in reality a distinct group within the community of merchants as a whole. In view of their links with both river and seaborne trade it might be expected that many of them might own shares in ships and boats (Fig. 3.19). Between 1600 and 1740, 93 inventories of hostmen remain, of these 32 (34%) showed evidence of boat or ship ownership. Out of these 93 hostmen 18(19%) showed evidence of owning 99 working boats between them, 14(15%) showed evidence of owning shares in 94 ships, and 10 (11%) showed evidence of owning 144 ships and working boats together. This level and breadth of ownership is not surprising in view of the extent to which participation in the river trades was integral to the work of a hostman. However, almost two thirds of the hostmen did not own ships or working boats such as keels. It seems clear that because the hostmen employed the skippers and keelmen who worked the keels and managed their work, it has been wrongly assumed that they must also have owned the keels. This was not always the case. A significant

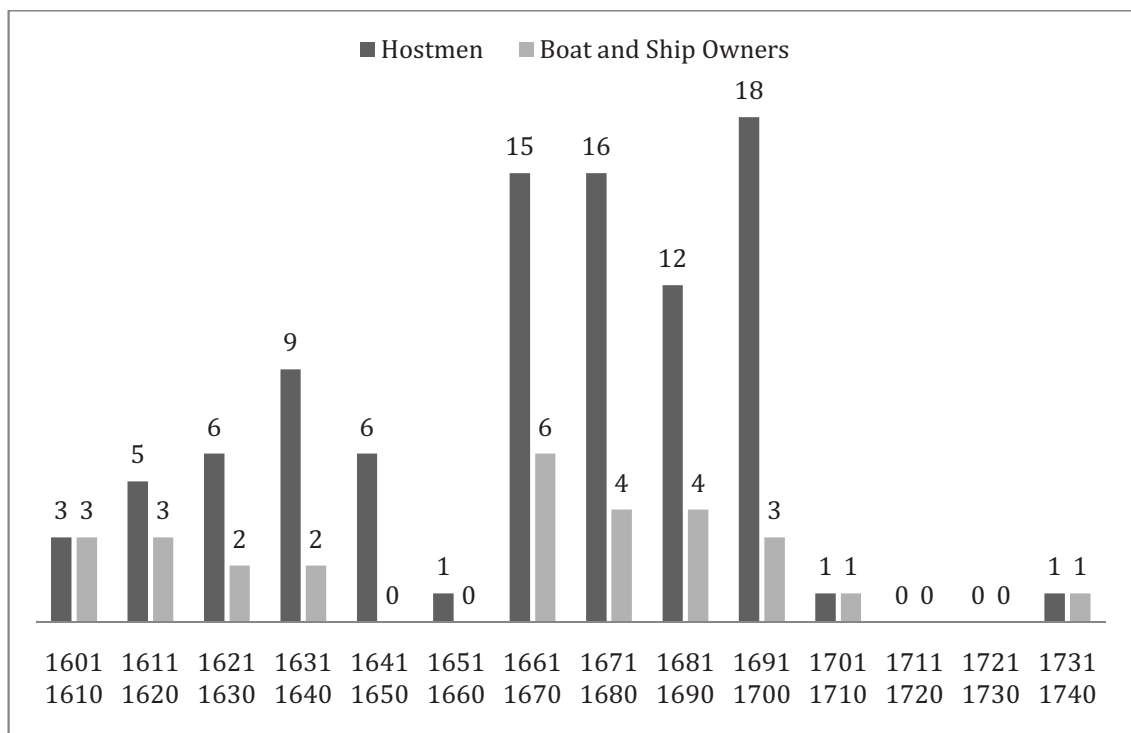


Figure 3.19 Hostman Numbers and Boat or Ship Ownership by Decade

number of hostmen must have been renting their keels from other owners such as shipwrights or other boat owners, possibly merchants and coal owners. In addition to the ownership of working boats a number of hostmen also owned ships, however the proportion owning both ships and boats was quite large. The significant level of ship ownership by some hostmen does suggest that they had a very strong grip on many aspects of the coal trade, being able to influence the trade from the coal staiths to its arrival at London or other destinations. This wide spectrum of boat ownership, when viewed in the context of the very wide range of estate size as shown in Table 3.8, suggests that there was a very wide spectrum of success among the hostmen, with some being very wealthy and successful, but others clearly of lesser means, either as a result of a relative lack of success in business or as a result of retirement, perhaps reflecting the complexities and risks involved in the coal trade at this time.⁵³

A case study of one of the most prominent merchants and hostmen in Newcastle illustrates the significance of the wealthy trading dynasties in the town during the seventeenth century. The Maddison family was typical of those members of the small inner governing ring of hostmen and merchants described by Howell in his description of Newcastle upon Tyne during this period.⁵⁴ Henry Maddison was born in 1574 in Newcastle upon Tyne to a prominent merchant Lionel Maddison, who was one of the group who shared the Grand Lease, becoming mayor of Newcastle in 1605 and 1617.⁵⁵ Henry flourished, clearly joining the ‘family business’. He was admitted to the Company of Hostmen on 22nd March 1600, and joined his father Lionel as sheriff during the latter’s term as mayor in 1605, becoming mayor himself in 1623. His son, also called Lionel became sheriff in 1624 and subsequently as Sir Lionel Maddison became mayor in 1632, two years before the death of Henry in 1634. After Henry’s death an imposing family memorial was built, which can still be seen, in the south transept of St Nicholas Cathedral in Newcastle (Fig. 3.20).⁵⁶ On the death of Henry Maddison his probate inventory displayed the full scope of his wealth, which included

⁵³ Earle, *The Making of the English Middle Class*, 143-157; Grassby, *The Business community of seventeenth Century England*, 242-7.

⁵⁴ Howell, ‘Newcastle and the Nation’, 275-296.

⁵⁵ Levine and Wrightson, *The Making of an Industrial Society*, 35; Mayors and Sheriffs of Newcastle upon Tyne, <http://www.newcastle.gov.uk/core.nsf/lmlist>, accessed 28 May 2009.

⁵⁶ Reproduced by kind permission of the Dean and Chapter of Newcastle Cathedral. The memorial includes a list of his sixteen children from his wife Elizabeth who died in 1753. The list includes ten sons: Sir Lionel, Raphe, Robert, William, Henry, Peter, George, Timothy, and Thomas who were all still alive at the time of her death, there was also a son John who died on an earlier expedition to Cadiz. They had six daughters: Jane, Susan, Elizabeth, Barbara, Eleanor and Jane, whose survival at the time of her death were not stated on the memorial.



Figure 3.20 The Maddison Memorial in St. Nicholas Cathedral, Newcastle upon Tyne.

coal reserves, land and shipping valued in total at £3,768-9-2d, (Valued as equivalent to £473,000 in 2008).⁵⁷ The estate in addition to his shipping included:

Three Waggon Horses £3; Six wagons with all furniture belonging them £12; Two riding horses £10; Five hundred tons of coal at pit and staiths, and a lease of a colliery at Fidgerfield having part of it £100; A part of a lease of a colliery at Lingefield £100; A part of a lease of a colliery at Rydingfield £66-3-4d; A part of a lease of a colliery at Faddonsfield £30; In stock with Thomas Cleborne £300; In corn that was sown at Marshallands £14.

All of his shipping interests were listed separately and are shown in Table 3.10. Maddison had one of the largest portfolios of shipping and keels in this entire study of ship- and boat-owning in the seventeenth and eighteenth centuries. Ships and boats represent over thirty percent of Maddison's fortune, epitomising the concentration of both commercial and local political power in the hands of the group of oligarchs that ran Newcastle upon Tyne during this period, indeed Grassby, in his study of merchant capitalism in the late seventeenth century, used Maddison as an example of a successful merchant in a provincial city.⁵⁸ The fates of the remainder of the large Maddison family are relatively unknown. Sir Lionel Maddison played a central role in the Puritan movement, being a member of the key Puritan group in the town, and was related by marriage to a number of the leading Puritans in the area.⁵⁹ There is a reference in the Common Council minutes to a Thomas Maddison 'who has fallen on difficult times' being appointed a Ballast Assessor by the town council in 1660 (See Chapter 4.). The Maddison tomb in Newcastle Cathedral lists a Thomas Maddison among the younger sons of Henry Maddison. If this was indeed the same person it may well be a sign that in 1660 the family retained some residual influence. However apart from another Henry Maddison becoming mayor in 1665 there were no further records of the Maddison family in local government in Newcastle up to 1800.⁶⁰

⁵⁷ Durham University Library, Henry Maddison, DPRI/1/Inv 1636; H.M. Wood, "Wills and Inventories from the Registry at Durham, Part IV," *Surtees Society* 142 (1924) 257; Officer 'Purchasing Power', (2009).

⁵⁸ Richard Grassby, 'English Merchant Capitalism in the late Seventeenth Century. The Composition of Business Fortunes', *Past & Present* 46 (1970) 87-107; Grassby, *The Business Community*, 139-70; Earle, *The Making of the English Middle Class*, 143.

⁵⁹ Howell, *Newcastle upon Tyne and the Puritan Revolution*, 127; Levine and Wrightson, *The Making of an Industrial Society*, 35.

⁶⁰ It is possible that the Henry Maddison who was mayor in 1665 was one of Henry's sons or even a grandson. One of the reasons why the Maddison family played a less prominent role on public life after the middle of the seventeenth century may have been the relative dilution of Henry Maddison's fortune when it was spread across a family of sixteen children, leaving each one with relatively less wealth to underpin a career in business and public life.

<u>Ship.</u>	<u>Share .</u>	<u>Valuation.</u>	<u>Total Ship Value.</u>
9 Keels	All	£22	£198
Henry and John of Colchester	5/16	£163	£52
Blessing of Ipswich	3/8	£200	£650
Prymrose of Newcastle	1/4	£25	£100
Isabell of York	1/4	£20	£80
Content of Colchester	1/8	£80	£640
Marigold of York	1/4	£90	£360
Neptune of Newcastle	1/4	£30	£120
Blessing of Rochester	3/16	£120	£640
John of London	1/16	£40	£640
Elizabeth of Malding	1/16	£40	£640
Mary of Malding	1/16	£40	£640
Mary Bonaventure of Hull	1/16	£20	£320
True Love of Albrough	1/16	£40	£640
Dove of Ipswich	1/32	£30	£960
Elizabeth of Selby	1/8	£50	£400
Gift of Ipswich	1/8	£50	£400
Indevour of London	1/4	£30	£120
Denis of Lynn	1/16	£25	£400
Protection of Ipswich	1/16	£25	£400
<u>Total Values.</u>		<u>£1,316</u>	<u>£8,870</u>

Source: DPRI/1; Henry Maddison , 1634. Inv.

Table 3.10 Henry Maddison's Probate Inventory, ships and Boats 1634.

3.6 Conclusions.

The information revealed by this study of the ownership of working boats and ships on the lower River Tyne in the seventeenth and eighteenth centuries, using probate inventories as a source, has provided some new and interesting perspectives on the trading and investment which occurred at the time. Although there are limitations in the value of probate inventories as a source, the information obtained is likely to be reliable, particularly as it is very likely that if an item such as a boat or ship is listed as belonging to a certain individual on a particular date, in a document witnessed by three or four individuals, then this item did indeed exist and its ownership was as stated. The valuations are probably accurate for the time with any variations reflecting differences in the age and quality of the boat or ship valued. A more cynical view might suggest that the valuation may be influenced by a desire to either increase or decrease the

recorded value of the estate, for whatever reason. This might explain why there was quite a wide range of valuations for seemingly very similar boats at similar dates.⁶¹

The data in this study, for example the numbers of keels or hostmen, are a reflection of the evidence available from the surviving probate inventories, and should not necessarily be taken as representing the absolute number that existed. Although an estimate was made of the annual total of keels in Chapter Two,⁶² even though a large number of keels were identified, the probate inventories they came from were widely distributed across many years making any estimate of the proportion they represented of total keel numbers unreliable. Notwithstanding these limitations, there is data from sufficient inventories to draw some very clear qualitative conclusions, and provide a basis for a number of legitimate, but cautious quantitative conclusions. Although the extent to which probate inventories have survived from year to year varies, the large number that have been identified and studied enable us to make a realistic analysis of the patterns of ship and boat ownership between 1600 and 1720.

Many of the owners of small numbers of working boats were of quite modest means, with the value of their boat contributing the vast majority of their wealth. An example is those working in the water trades, the watermen and skippers, a number of whom owned boats, the value of which constituted more than 80% of their entire estate, in contrast with owners of larger numbers of vessels, or more valuable boats or ships where the contribution of this part of their estate to their overall wealth was much less. The owners of shares in ships often had a portfolio of shares in quite a large number of ships, each of quite modest individual value, but in total amounting to quite a large sum, this sum being often much less than half of the total estate. This does tend to suggest investment in shipping being a considered strategy with risk being reduced by developing a portfolio consisting of a larger number of separate small investments.

This examination of the distribution of boat and ship ownership across the trades and professions during the seventeenth and eighteenth centuries in Newcastle has turned up some surprises. It was not a surprise to find that Merchants and Hostmen featured prominently in the list of those who owned both working boats and ships, particularly because much has been made in the secondary literature of the role of the merchants and

⁶¹ Arkell, "Interpreting Probate Inventories," 72-102; Overton, "Prices from Probate Inventories," 120-41.

⁶² Chapter 2, Table 2.2.

hostmen in the ownership of the working boats, notably the keels which were integral to the coal trade. Whereas there can be little doubt that the hostmen acted as agents, facilitating the coal trade and did hire and manage the skippers and keelmen who carried the coal to the ships, the evidence from this study is that not all of them owned many of the keels themselves. It is clear that many of the wealthier merchants, who also owned or leased the coal mines, also owned many keels and supplied them to the hostmen.

The unexpected finding of the study was that one of the major contributors, who were significant owners of keels were the shipwrights who built them. The large numbers that many owned seem to be more than would be anticipated if their only role was to make keels, when it might be expected that they might have one or two in stock pending sale. There were 119 keels owned by 27 of the 97 shipwrights, with some individuals owning up to 13 keels. Ownership at this level would indicate that to balance the large amount of capital tied up in the keels, there would have to have been a significant income arising. We have been able to show that such an income was derived by hiring keels to hostmen who would find skippers and crews with a view to using them to ferry coal to the ships, and one might speculate that some of the skippers may have hired the keels directly from the keel owner and then made themselves and their keel available for hire by a hostman. Many of the shipwrights additionally had significant ownership of shares in ships, apparently maintaining a financial interest in the ownership and performance of the ships they had built. The contribution of shipwrights to these trading networks has not been described before, demonstrating their participation in the wider business and trading networks that existed on the River Tyne. The nature of the keel rental trade is less clear. Whereas it is possible that the hostmen rented them and then employed skippers and keelmen to work them, there is some anecdotal evidence that hostmen who owned keels charged a rental fee to the keelmen who used their keels. If this was indeed the case it is equally possible that it was the skippers who hired the keels directly from the shipwrights. Evidence for this comes from letters and diaries of the time, which often talked in terms of a keel being 'Mr Robinson's keel', where Mr Robinson was the skipper of the keel, implying a degree of responsibility if not ownership.⁶³ The wide discrepancies between the estate sizes of those who owned boats or ships and those who did not, in all of the occupational groups studied, may be indicative of an economic, and by implication a social hierarchy within each of the different occupational groups.

⁶³ See Chapter 5 in this Thesis, an analysis of The Diaries of Ralph Jackson, an apprentice hostman.

Chapter Four

The Shipping Trade on the River Tyne.

Any study of the water trades around Newcastle and on the River Tyne during the seventeenth and eighteenth centuries must take account of the volume and complexity of the import and export trade using the river. As has been shown in the previous chapter, during the seventeenth and eighteenth centuries Newcastle had become a flourishing port with a thriving community of merchants and tradesmen. The dynamic coal trade, mainly with London and the east coast ports, had stimulated this growth. As the community grew, with the development of an urban ‘middling class,’ relative wealth and spending power also grew and was manifested in an increasing demand for consumables. This ‘consuming culture’ was a major feature of the seventeenth and eighteenth centuries and has been the subject of extensive analysis relating the increased demand associated with consumption to the development of markets and increasing sociability within the community.¹ The impact of these changes upon consumption and regional identity particularly in the North East of England has been lucidly presented in a series of essays edited by Helen Berry and Jeremy Gregory in which a number of distinct features are highlighted, characteristic of the local industrial and trading community dominated by coal.² The effect of this increasing consumption of a wider range of food and luxury products was to fuel both an increase in the production of consumables locally and an increase in the importation of those goods which were not locally produced into the Tyne, not only from London and other ports in England but also from abroad, including cloth from Northern Europe and wines from Southern Europe and the Mediterranean. Many of these commodities came into Newcastle as part of return cargoes in ships that were returning to the Tyne to pick up outward cargoes of coal and other local products such as glass, lead and grindstones, particularly as part of the flourishing Baltic trade which was so important to many Newcastle merchants.³

¹ Neil McKendrick, John Brewer, J.H. Plumb, *The Birth of the Consumer Society: the Commercialisation of Eighteenth-Century England*, (London: Europa 1982); eds. John Brewer and Roy Porter *Consumption and the World of Goods*, (London: Routledge, 1993); John Brewer and Ann Bermingham (*The Consumption of Culture, 1660-1800: Image, Object, Text*, (London: Routledge 1995).

² Helen Berry, Jeremy Gregory, “Introduction” in *Creating and Consuming Culture in North-East England, 1660-1830*, Eds. H. Berry and J Gregory (Aldershot: Ashgate 2004), 1-11.

³ Patrick Salmon and Tony Barrow, eds. *Britain and the Baltic*, (Sunderland: Sunderland University Press 2003).

The impact of these changes became manifest in the type and quantity of property owned by householders. As indicated in the previous chapter, surviving probate inventories provide an insight into the ownership of household goods in the seventeenth and early eighteenth centuries in the North East. Lorna Scammell in her studies of the ownership of the property compared the ownership of consumer durables described in probate inventories in the North East of England with those in other parts of the country. She was able to identify differences between areas with a rural as opposed to an urban economy and suggested that the features of the North East were more akin to those of an area with a mixed economy, and also that the population were clearly benefitting from an improving quality of life. A large proportion of the wide range of domestic goods she found were not made locally but traded from London, almost certainly by sea in ships which were intending to return to their home port with a cargo of coal.⁴

The ability to sustain such a reliable and consistent importation of goods of all types into Newcastle and its surrounding region influenced the development of trade and industries in the region in both positive and negative ways. Whereas many industries benefited from the ready availability of coal as an energy source and developed locally, some of the smaller industries, which provided what might be considered as luxury goods, did not develop and relied on importation from elsewhere. A good example of this is the relative absence of a significant distilling industry in the North East. With the increasing taste for gin and other spirits in the seventeenth and eighteenth centuries there was an increasing demand, particularly from those in the flourishing middling classes.⁵ This was largely supplied by importation from the large number of large-scale distillers based in and around London. Chartres in his analysis of the consumption of gin and other spirits in the North East of England in the seventeenth and eighteenth centuries highlights the extent of spirit consumption in the region and the extent to which the demand was adequately supplied by manufacturers in London through their agents both in London, regionally and locally. Similarly imports came

⁴ Lorna Scammell, 'Was the North East Different from Other Areas? The Property of Everyday Consumption in the Late Seventeenth and Early Eighteenth Centuries', in *Creating and Consuming Culture*, Ed. H. Berry and J. Gregory, (Aldershot: Ashgate, 2004). 12-23; Weatherill, *Consumer Behaviour and Material Culture*.

⁵ Peter Clark, 'The "Mother Gin" controversy in the Early Eighteenth Century', *Transactions of the Royal Historical Society*, 5th Series, 38 (1988), 63-84.

from the Scottish distilleries and also from abroad, not to mention a contribution made by smuggling.⁶

One of the most important aspects of the overseas trade from Newcastle and the Tyne during the seventeenth and eighteenth centuries was the Baltic trade. Throughout this period there was a regular traffic of ships from the Tyne to Norway and through The Sound into the Baltic, usually carrying cargoes of coal, salt and glass to the Baltic ports. The iron trade from Sweden to England became particularly strong as the trade between Sweden and Holland diminished, with Newcastle and other East Coast ships loading iron in large quantities in both Gothenburg and Stockholm.⁷ The trade between Newcastle and Narva (a coastal port in what is currently in Estonia, close to the Russian border), was of particular significance in the latter half of the seventeenth century as the town was used as an access point into the Russian trade, with quite a large number of English merchants becoming resident in the town to benefit from the flourishing tobacco import trade that developed.⁸ The returning cargoes in addition to iron from Stockholm, included large amounts of timber particularly from Norway, and flax, pitch, tar and hemp from the other Baltic ports.⁹

One of the best examples of a successful eighteenth-century Newcastle merchant was Ralph Carr (1711-1806).¹⁰ Carr followed his father into the business of being a merchant trader in Newcastle, and began his career, while still an apprentice, with a long tour of the continental trading centres in Northern Europe, including northern France, Amsterdam and the Low Countries, and also the Baltic, eventually spending some time in St Petersburg. The Baltic was to remain one of his main business interests for the rest of his life. On his return to Newcastle he began trading on his own account, even though he had not yet completed his apprenticeship. The contacts that he made on his trip, particularly those he made in Amsterdam and elsewhere in Holland and the

⁶ J.A. Chartres, 'Spirits in the North East? Gin and Other Vices in the Long Eighteenth Century', in: *Creating and Consuming Culture*, eds. H. Berry and J. Gregory, (Aldershot: Ashgate, 2004), 37-56; Clark, 'The "Mother Gin"', 63-84.

⁷ Leos Muller, 'Britain and Sweden, the changing pattern of commodity exchange 1650-1680', in *Britain and the Baltic*, eds. P. Salmon and T. Barrow, (Sunderland: Sunderland University Press, 2003), 61-76; David Aldridge, 'English east coast trade with the Baltic in the closing years of the Great Northern War 1714-1721', in *Britain and the Baltic*, 119-30.

⁸ Enn Kung, 'English commercial activity in Narva during the second half of the seventeenth century', in *Britain and the Baltic*, 77-108

⁹ Ralph Davis, *The Rise of the English Shipping Industry*, (London: Macmillan, 1962), 213.

¹⁰ Bill Purdue, 'Ralph Carr: a Newcastle merchant and the Baltic trade in the mid eighteenth century', in *Britain and the Baltic*, 157-68.

Baltic were essential to the future development of his Baltic trading network. Carr developed a series of inter-related business interests such as being a proprietor of the British Linen Company, founded in 1746, which corresponded nicely with his imports of flax from the Baltic and Hamburg. A further interest was in buying and selling corn, importing it from Scotland and the Baltic and, using close links with London dealers, re-exporting it to the most profitable centre. The financial mechanisms of the Baltic trade were complex and depended on bills of exchange often drawn upon at Amsterdam or Rotterdam, the entire trade being a tri-partite arrangement which was financed largely by Dutch money, which was then repaid by English merchants. Ralph Carr became very involved in international bill-broking, both for himself and for other merchants with less capital and experience, which was later to lead him, with others, to found Newcastle's first Bank the - 'Old Bank'.¹¹

Ralph Carr's connection with Amsterdam merchants was to lead him to become involved with the American trade through Newcastle. Amsterdam had developed a flourishing trade with ports on the eastern seaboard of America, particularly New York and Boston,¹² however ships heading from Europe to America were required to clear customs in England before going to America, and Carr provided a service for Dutch merchants to clear their ships in Newcastle before going to America for which he charged commission. The funds raised by these commission charges generated funds which allowed him to pay bills in Amsterdam for trade undertaken in the Baltic. Although not having solicited the American trade, Carr used it in an attempt to develop his network further. As well as clearing the Dutch ships through customs, Carr provided them with some ballast cargo for their transatlantic trips, which consisted of relatively cheap bulky goods easily obtainable in the Newcastle area such as coal, anchors and grindstones. In addition he developed a correspondence with a number of American merchants in an attempt to develop the American trade, trying to persuade them to accept a larger range of products in addition to the ballast cargoes such as woollen goods, pottery and glassware, maintaining that he could obtain them at cheaper prices than could be found at other English ports. In spite of his best efforts Carr failed to interest his correspondents and develop an American trade, partly because the products

¹¹ Ibid. 165. Carr's experience in the Corn market led to an association with the Coutts brothers John and James in Edinburgh and London, with whom he made large profits shipping grain during periods of shortage, particularly in 1741, to the most profitable markets. This experience in the Baltic and corn trades gave him the financial experience and capital to facilitate his entry into banking in Newcastle.

¹² Ibid. 166; Ellis, 'The "Black Indies"', 5; William Roberts, 'A Newcastle Merchant and the American Colonial Trade', *The Business History Review* 42 (1968), 271-87.

he could offer were not of the quality required, but more importantly he was not prepared to offer them the credit facilities they were demanding.

The impact of this flourishing and varied import and export trade along the River Tyne would necessarily have been felt by the wider community at all levels. It is striking how the relative efficiency of the internal local transport system on the river would, of necessity, have impacted on the efficiency of the import and export trades and vice versa. The increased activity by merchants would have been reflected, not just by their increasing need for finance and cash flow, as exemplified by the developments in the career of Ralph Carr, but also by increased demands placed on shipping into and out of the river and all of those involved in supporting this increased traffic. The effect of the development of such a varied non-coal import and export trade on those working in the river related trades would have been substantial, with the increased amount of shipping and the variety of imported goods that were to be unloaded, marketed and distributed to the various end users, stimulating and diversifying the local economy.

The extent to which commodities and other materials associated with the relative boom in consumption in the North East arrived in the region by sea may be seen in the contents of the cargoes listed in the various archival sources which still exist. One of the few sources available for such a study are the Exchequer Port Books. These volumes provide contemporaneous lists of the ships departing from, and arriving at a port, which were involved in both coastal and overseas trade. The port books were compiled at one hundred and twenty-two maritime centres around the coast of England and Wales between 1565 and 1799. The purpose of the books was to enable the Customs authorities to enforce the collection of customs duties. The major ports such as Newcastle were designated Head Ports, responsible for a number of lesser ports, for example Newcastle as a head port had a number of ports under its aegis as 'member' ports such as Stockton, Whitby and Sunderland, some of which would have their own port books. Usually the larger ports included in their port books lesser 'creeks', which in the case of the Newcastle port books included Cullercoats, Seaton Sluice and Blyth Nook.¹³

¹³ Hoon, *English Customs System*, 5-25, 36-8; Jarvis, 'The Appointment of Ports', 463; R.C. Jarvis, 'Critical Historical Introduction', in Hoon, *English Customs System*, xii-xvii; Davis, *The Rise of the English Shipping Industry*, 396-7; Donald Woodward, 'Sources for Maritime History (III): The Port Books of England and Wales', *Maritime History*, 3:2 (1973) 147-65; Hussey, *Coastal and River Trade*, 7-17.

There were three officials responsible for collecting the overseas duties, the 'customer', the 'controller' and the 'surveyor' (or searcher), the customer and controller being responsible for the coastal duties. Each of these officials kept their own duplicate copy of the records. The books recorded all goods going in and going out of a port, the object being to prevent goods coming or going from abroad being passed off as goods going to or from local coastal ports, thus avoiding customs duties. In addition there were a number of commodities, including coal, which had internal duties which needed to be paid. Even internal coastal shipping was liable to customs fraud and smuggling, and to prevent this there was a substantial bond, payable at the port of departure, which was returned to the bondsman on successful completion of cross checks at the end of a domestic voyage. Notwithstanding these precautions, there was still a significant amount of fraud, often involving corrupt customs officers, particularly in the smaller ports.¹⁴

There are a number of problems associated with using port books as a historical source, the most important of which is the relatively restricted number of port books which have survived the passage of time and remain legible. Even in those that have survived, Woodward emphasised that 'they do not provide trade statistics, but only a record of a part of the trade passing through particular ports.' There were several reasons for this, in addition to the possibility of there being corrupt customs officers just mentioned, clerical errors and the evasion of duty by merchants all contributed to the problems.¹⁵ Hussey noted in his detailed study of Bristol port books, that in the late seventeenth century around five hundred coastal voyages cleared that port each year, with each record containing details of the ship, destination ports, masters, merchants and cargoes, all amounting to around thirty thousand discrete items of data each year; with a further nine hundred voyages, similarly recorded entering Bristol each year. In the light of the vast amount of information contained in each port book, it is not surprising that even the most comprehensive of works are based on a relatively superficial analysis.¹⁶

There have been a number of studies which include reference to the contents of the Newcastle Port Books during the seventeenth and eighteenth centuries. One of the earliest was by Willan in his classic *The English Coasting Trade 1600-1750*, and

¹⁴ Hoon, *English Customs System*, 19, 195, 203; Woodward, 'The Port Books of England and Wales', 147-65; Peter D'Sena, 'Perquisites and Pilfering in the London Docks 1700-1795', (M.Phil Thesis, Open University, 1986).

¹⁵ Hoon, *English Customs System*, 203; Woodward, 'The Port Books of England and Wales'.157-8.

¹⁶ Hussey, *Coastal and River Trade*, 17

Studies in Elizabethan Foreign Trade.¹⁷ He noted that in 1547 Newcastle had an active export trade of coal, grindstones, salt, wool and skins to ports in France such as Rouen, the Low Countries, Danzig, Emden and Hamburg, together with an import trade of timber pitch, tar flax and hemp from Norway and the Baltic. This was supplemented by a wide range of more exotic goods such as ginger, prunes, aniseed and figs from France and the Low Countries. Willan noted that: ‘... the town was so industrialised and so dependent on food from a distance that appears almost an anachronism in the northern parts of Elizabethan England’. He also observed that in 1634, when Newcastle was already a major centre of coal mining, glass-making and salt-making, together with the production of grindstones, that there were coastal exports of around 400,000 tons of coal and around 6,022 wheys of salt. Although there was no glass exported that year, by 1640, 1200 cases of window glass were exported to London.¹⁸ Throughout the remainder of the seventeenth century the main destination for coastal exports from the Tyne was London together with a range of eastern coastal ports such as Hull, Lynn, and Yarmouth. Most of the imports were of grain and other cereals from these east coast ports and a variety of household goods, haberdashery and wines from London. During the eighteenth century this trade continued with the addition of butter as a major export particularly to London.¹⁹

The sea trade from Newcastle was relatively unusual when compared with other ports in England in that its most prominent coastal and overseas exports were relatively high volume low value cargoes as opposed to exports from other ports such as Bristol or London where the cargoes tended to be of lower volume and higher value. The consequence of this was that proportionally more vessels’ movements were required to move cargo of a given value from Newcastle than other ports, partially explaining the very high volumes of sea traffic in and out of the Tyne, with up to fifty arrivals and departures each day.²⁰ The effect of this was that a very large proportion of the ships arrived carrying ballast alone or another cargo in addition. This in itself became a cause of conflict within the town, firstly because the volume of ballast discharged was such as to cause obstruction to the river and a hindrance to navigation, and secondly because the Burgesses of Newcastle charged a fee to deposit ballast on shores within its jurisdiction.

¹⁷ Willan, *The English Coasting Trade*, 115-18; Willan, *Studies in Elizabethan Foreign Trade*, 67-9; Davis, *The Rise of the English Shipping Industry*, 213.

¹⁸ Willan, *The English Coasting Trade*, 116; Ursula Ridley, ‘The History of Glass Making on the Tyne and Wear’, *Archaeologia Aeliana*, 40 (1962), 145-62.

¹⁹ Willan, *The English Coasting Trade*, 116.

²⁰ Ellis, ‘The “Black Indes”’, 2.

The ballast did have some benefits to the town however. The sand became an essential component in the flourishing glass manufacturing industry that lined the banks of the river, which had been one of the earliest sites where plate glass was made. During the seventeenth and eighteenth centuries the region was a major manufacturer and exporter of window glass and glass bottles in addition to particularly fine drinking glasses.²¹

Joyce Ellis in her examination of trade in Newcastle, and particularly the salt trade between 1660 and 1790, examined the port books between those years producing a detailed analysis of the annual salt exports, both coastal to other ports in England, particularly Hull, Lynn and London, and abroad, mainly to Scandinavia and the Baltic. This trade continued until the 1730s when the Cheshire salt mines began to produce better quality salt at lower prices, reducing the English trade in sea salt. The North East trade was further undermined by the discovery of salt reserves in Denmark, near Christianshaven. Imports into the Baltic from Iberia also lowered the demand for English sea salt from the Baltic countries. These changes resulted in a progressive decline of the sea salt trade on the Tyne as these other sources of better quality salt became readily available.²²

This chapter represents a further, and major analysis of the Newcastle port books. The choice of books to be analysed was based on selecting years for which other authors had examined port books for other comparable provincial ports. The work by David Hussey examining the port books for ports in the Bristol Channel including Bristol and Gloucester proved a particularly appropriate comparator since it concentrated on a provincial port with a similar magnitude of trade but with a very different mix of imports and exports to Newcastle. Hussey chose 1699 as a sample year because it lay between the conclusion of the Anglo-French war in 1697 and the outbreak of the War of the Spanish Succession in 1702, representing a period of relative stability in overseas trade.²³ In view of these considerations the availability of Newcastle port books over this period was explored. In the event, the availability of surviving Newcastle port books covering this period proved to be rather limited. Preserved within The National Archives are a number of Exchequer Port Books which are close to this date, however, unfortunately it is not possible to obtain overseas and coastal port books

²¹ Ridley, 'The History of Glass Making on the Tyne and Wear', *Archaeologia Aeliana*, 40 (1962), 145-62.

²² Ellis, 'The "Black Indes"', 3; Ellis, 'The Decline and Fall of the Tyneside Salt industry', 45-58; Davis, *The Rise of the English Shipping Industry*, 350.

²³ Hussey, *Coastal and River Trade*, 18.

for the same year. Thus a number of port books have been selected for study, as they are the only complete volumes closest to the dates required. Two further Port Books were examined, both overseas and coastal for 1756 (Table 4.1).

Port of Newcastle, Sunderland and Stockton, Controller Overseas, Xmas 1698 – Xmas 1699. (Includes Inwards and Outwards shipments) ;	TNA: E/190/207/4.
Port of Newcastle, Customer and Controller Coastal, Xmas 1702 – Xmas 1703. (Includes Inwards and Outwards shipments);	TNA: E/190/209/1.
Port of Newcastle with Blyth, Stockton and Sunderland, Customer and Controller Coastal, Jan 1756 – Jan 1757. (Outward shipments only.)	TNA: E/190/256/9.
Port of Newcastle with Blyth, Stockton and Sunderland, Searcher Overseas, Jan 1756-Jan 1757. (Inward and Outward shipments.)	TNA: E/190/257/5

Table 4.1 Port Books selected for Detailed Study

These were selected in the light of information contained in the Diaries of Ralph Jackson, apprentice hostman, whose final year of apprenticeship was 1756, and whose diaries are to be considered later in this thesis. These latter port books will allow us to identify any changes in the patterns of shipping, as recorded in the port books, over the first fifty years of the eighteenth century, as well as allowing us to identify any linkages between Jackson's description of the ships he dealt with and the ships and river traffic described in the port books. Each of these books contains huge numbers of entries recording individual shipments. The 1702-3 coastal outwards book contains no less than 2280 shipments and the equivalent book for 1756 contains 2829.

In addition to these Newcastle Port Books an important further series of documents relevant to imports and exports from the Tyne are the Newcastle Chamberlains' Accounts of Receipts and Disbursements, which are complementary to the port books. They record the payment of local city taxes on the export of coal and salt, and fees for deposition of ballast, the payments often being made on the same day as the customs duties recorded in the exchequer port books. These documents record

payment of a variety of local taxes and charges in addition to the payment of fees for depositing ballast and local taxes on the export of coal, including those for the attainment of freedom following an apprenticeship, and numerous payments for the rent of land and property and fines which have been imposed. As will be shown, the details of the shipping taxes tend to corroborate the entries in the Port Books, containing the names of both the ship and that of its master together with the amount of coal carried and the amount of tax paid. The ballast records show both the amount of ballast deposited and the ballast shores where it was deposited, together with the fees paid. Ships which arrived with incoming cargo, instead of ballast, were also identified if they left with coal or salt for which local taxes were paid.²⁴

4.1 Newcastle Port Book 1702-3, Coastal Outwards and Inwards.²⁵

The Coastal Outwards port book is very much larger than the Coastal Inwards book, and is relatively well preserved. It is mostly legible, although there are one or two areas of damage to the pages and text. The book is arranged in two parts, the first part records the coastal outwards shipments arranged in five columns. In order from left to right these are: the name of the Bondsman underwriting the voyage;²⁶ the date; the name of the ship and its master, together with any additional cargo other than salt or coal; the amount of salt; the amount of coal in chaldrons; the destination port and the date of clearance at the port of arrival (allowing the bondsman to be repaid his bond). The second part, the Coastal Inwards book, is arranged in three columns with, from the left: the date of arrival; the name of the ship, its master, the name of the merchant and the nature of the cargo; the port of origin and the date of departure. The format makes it relatively easy to identify the details of the coastal trade from the Tyne over the year. Table 4.2 shows an analysis of the data from the coastal outwards port book, by month, the number of shipments leaving the Tyne, the proportion which were London bound, and the extent to which they were coal alone, other non-coal cargo, salt, or a combination of them.

²⁴ Newcastle Chamberlains Accounts of Receipt and Disbursements, TWAM, MD.NC/FN/1/1; Elizabeth Halcrow, "The Chamberlains' Accounts of Newcastle upon Tyne," *Journal of the Society of Archivists*, 1:10 (1955) 289-291; Ellis, 'The "Black Indes"', 17.

²⁵ TNA E/190/209/1

²⁶ Although the Port Books include the name of the Bondsman underwriting the voyage, they do not include the amount of the bond that he paid. In addition the details of the cargo shipped on any particular voyage include the size of each shipment but unfortunately neither its value, or the full value of the shipment as a whole.

<u>Month</u>	<u>Shipments</u>	<u>London^b</u>	<u>Coal + Cargo^c</u>	<u>Coal Only^c</u>	<u>Salt + Coal^c</u>	<u>Salt^c</u>	<u>Cargo^c Only</u>
January	80	21(26%)	33(41%)	14(17%)	31(39%)	2(2%)	5(6%)
February	37	22(59%)	17(46%)	14(38%)	2(5%)	1(3%)	3(8%)
March	183	120(66%)	33(18%)	125(68%)	9(5%)	9(5%)	7(4%)
April	277	152(55%)	51(18%)	212(77%)	8(3%)	2(0.7%)	4(1%)
May	206	116(56%)	28(14%)	164(80%)	9(4%)	2(1%)	3(1%)
June	185	105(57%)	27(15%)	142(77%)	11(6%)	3(2%)	2(1%)
July	270	163(60%)	47(17%)	194(72%)	21(8%)	3(1%)	5(2%)
August	430	227(53%)	72(17%)	322(75%)	17(4%)	16(4%)	3(0.7%)
September	299	175(59%)	41(14%)	227(76%)	22(7%)	3(1%)	6(2%)
October	232	82(35%)	64(28%)	136(59%)	25(11%)	2(0.8%)	5(2%)
November	56	26(46%)	23(41%)	22(39%)	4(7%)	4(7%)	3(5%)
December	25	3 (12%)	18(72%)	1(4%)	3(12%)	3(12%)	0
<u>Totals</u>	2280	1212(53%)	454(20%)	1568(69%)	162(7%)	50(2%)	46(2%)

Source:

^a TNA: E/190/207/4

^b These percentages represent the proportion of the total shipments which went to London

^c These percentages represent the proportion of total shipments for each commodity or combination of commodities.

Table 4.2. Shipments in 1702-3 Coastal Outwards Port Book.^a

Table 4.2 shows a total of 2280 coastal shipments out of Newcastle in 1702-3. Many of the authors of histories of Newcastle have stated that the coal trade by sea out of Newcastle to London and other ports stopped over the winter, partly because of bad weather and sea conditions, and partly because frost damaged the quality of the coal.²⁷ The port books clearly show that although there was a great reduction in voyages over the winter months, there were still a significant number of shipments of all cargoes, including coal leaving the Tyne throughout the winter. In addition to coal and salt, there was a significant amount of general cargo shipped out of the Tyne to coastal ports throughout the year: 2184 of the 2280 coastal shipments included coal in their cargo (96%), but of these 20% (454 of 2184) of the coal shipments were accompanied by general cargo and 7% (162 of 2184) were accompanied by salt. If one assumes that the coal cargo, being in bulk, was loaded on board the ships first, then it is likely that the general cargo was loaded last while the ship was anchored at the mouth of the river, with the clear implication that the same mode of transport, the keel, was used to move

²⁷ Welford, *Newcastle and Gateshead*, Vol.3, 348; Hughes, *North Country Life*, 251.

the general cargo from land to the ship. The range of general cargoes carried was very wide (Table 4.3) and was carried to a very wide range of coastal ports in addition to London (Table 4.4). The port books also show the names of the bondsmen who underwrote each coastal voyage. It is notable that the names recur very regularly and in many cases appear to be the same names as those which appear in the lists of members of the Hostman's company. For example Robert Wallis's name appears as bondsman for a total of 57 shipments in 1702-3. The name appears as an apprentice hostman in 1698, being admitted to the company as a member in 1705, suggesting either that he was acting as bondsman while still an apprentice or this was another individual of the same name. However, unfortunately the books do not contain details of the size of the bond or the value of the cargo. The wide range of commodities other than coal exported to other English coastal ports is very remarkable, and whereas the most common exports were those which were produced locally such as lead, grindstones and glassware, the list includes many items that were not produced in Newcastle or its hinterland, implying that significant amounts of consumables which had been imported into Newcastle from London or abroad were being re-exported to other coastal towns. Many of these were east coast towns and were included in the general cargo that accompanied so many coal and salt shipments.²⁸

²⁸ Willan, *English Coasting Trade*, 115-16; Ellis, 'The Decline and Fall of the Tyneside Salt Industry', 45-58.

Cinders 108 ²⁹	Brass 3	Chairs 1
Lead 115	Deals 3	Clapboard 1
Glass 71	Flax 3	Copperas 1 ³⁰
Skins, 58	Quills 3	Currants 1
Tallow 45	Soap 3	Cut tobacco 1
Grindstones 42	Starch 3	English Malt 1
Butter 36	Tar 3	Fish, Cod & Ling 1
Glass Bottles 36	Tobacco Stalks	Flannel 1
Flagstones 15	Woolen Stockings 3	Galletia Wine 1
Leather 12	Trim'd and Squared Iron 2	Hollands Damask 1
Beef & Pork 11	Baskets violes 2 ³¹	Hollands Diper 1
Course Hats 11	Beeswax 2	Hollands Linen 1
English Spirits 8	English iron 2	Kelseys 1
French Wine 8	English Wheat 2	Kendall Cottons 1
Candles 7	Feathers 2	Nails 1
Cottons 6	Old ropes 2	Oats 1
Wrought Iron 6	Pitch 2	Oyl 1
English Steel 5	Red & White Port 2	Paper 1
Linnen 5	Sugar 2	Sherry Wine 1
Linsley Wolseys 5	Alum 1	White Callico 1
Juniper Berries 5 ³²	Apothecary wares (returned) 1	White Crepe 1
Woolen Yarn 5	Bags of shot 1	Woolen Cloth 1
Tobacco Pipes 4	Beans 1	Worsteds 1
Clarritt Wine 4	Bottled ale 1	Yellow Canvas 1
Gloves 4	Chains 1	

Table 4.3 Number of Shipments of Commodities, other than Coal or Salt Carried Coastal Outwards 1702-3.

²⁹ Cinders: “A small piece of coal from which the gaseous or volatile constituents have been burnt, but which retains much of the carbon so that it is capable of further combustion without flame.” <http://dictionary.oed.com>; Cinders appeared to be regarded as different from coal and used for different purposes; Clifford E. Thornton, *Bound for the Tyne*, Extracts from the diary of Ralph Jackson, ‘Apprentice Hostman of Newcastle upon Tyne 1749-1756,’ 15. Coal was burnt at the pit heads to make cinders in a primitive coking process. There was a ready market for this product at glassworks, smithies and in maltmaking.

³⁰ Copperas, or green vitriol is a form of ferrous sulphate.

³¹ Would appear to be baskets of violets.

³² Juniper berries used for making Gin.

Lynn 161	Blakeney 13	Cowes 4
Yarmouth 107	Bridlington 13	Poole 4
Sandwich 72	Dover 10	Scarborough 4
Wells 56 ³³	Grimsby 9	Woodbridge 4
Portsmouth 54	Stockton 9	Weston 4
Hull 52	Newhaven 7	Arundel 3
Southampton 41	Wisbeach 7	Folkstone 3
Colchester 38	Guernsey 6	Sunderland 3
Exeter 30	Maldon 6	Hartlepool 2
Rochester 28	Weymouth 6	Kingston upon Hull 2
Ipswich 25	Harwich 5	Plymouth 2
Faversham 21	Southwold 5	Berwick 1
Whitby 18	Aldbrough 4	Lewes 1
Boston 17	Brighton 4	Wainfleet 1
Deal 15		

Table 4.4. Newcastle Outward Coastal Destination Ports Used Other Than London 1702-3

The coastal inwards port book is very much smaller than the outwards book, confirming the gross excess of outward shipments when compared to those inwards. The number of inward shipments is shown in Table 4.5, and their ports of origin in Table 4.6. The majority of the coastal shipments into the Tyne were of foodstuffs, particularly large quantities of grain from the East Anglian ports and a very wide range of domestic consumables from London (Table 4.7). Unfortunately, because of deterioration in some pages of the port book it is not possible to obtain an accurate quantity of each of the imported goods, as some parts of the cargo lists have become obscured.³⁴

³³ Wells-next-the-Sea in North Norfolk.

³⁴ Willan, *The English Coasting Trade*, 116; Bill Purdue, 'Ralph Carr,' 157-167; T. Barrow, 'Corn, Carriers and Coastal Shipping; The Shipping Trade of Berwick and the Borders 1730-1830', *Journal of Transport History*, 21:1 (2000), 6-27; The main coastal imports into Newcastle from ports other than London were rye, barley, wheat, peas and beans. The most prominent exception was Hull from which were imported numerous coal wagon wheels, English spirits, underfelt, flax, ironmongery and linen, probably sent from the Midlands through the river system to Hull. In addition there were shipments of tobacco pipe clay from Poole and Southampton, and alum from Stockton.

January	30
February	13
March	10
April	51
May	14
June	12
July	12
August	15
September	9
October	12
November	12
December	16
<u>Total</u>	206

Table 4.5 Newcastle Inward Coastal Shipments 1702-3.

London	58	Blakeney	8	Whitby	3
Wells	45	Lynn	8	Stockton	2
Bridlington	26	Yarmouth	4	Hartlepool	1
Hull	21	Woodbridge	4	Ipswich	1
Colchester	9	Boston	3	Southampton	1
Grimsby	9	Poole	3		

Table 4.6 Ports of Origin of Inward Coastal Shipments to Newcastle, 1702-3.

White Wine	English Spirits	Vinegar	Wooden Hoops
Lime Juice	Oranges	Cheese	Copperas
Wrought Iron	Bay Salt	Satlery Wares	Brown Paper
Hopps	Florence Wine	Saddles	Pipe Staves
Red Lisbon Wine	Woolen Drapery	Cyder	Currants
Spanish Red Wine	Upholstery	Sugar	Raisins
Bone Ashes	Pewter	Verdigrease	Groceries
Cherrys in Spirit	White Lead	Soap	Port Wine
Tobacco Pipe Clay	Canary Wine	Cotton	Whalebone
Sweets	Haberdashery	Chain	Tin Plates
Gingerbread	Pimento	Earthenwares	Aniseeds
Chariot with Furniture	Apparell	Corks	Hankerchiefs
Apothecary Wares	Tobacco	Trees	Seeds
White Lisbon Wine	Mens Wares	Flannell	Old Shoes
Whitening	Paper	Hats	Chairs
Lanthorne Lights	Linnen Drapery	Spades	Red Lead
Stationery Wares	Dyed Linnen	Candle Wick	White Port Wine
Confectionery Wares	Ironmongery	Sieves	Frying Pans
Sturgeon	Bellows	Hats	Glasses
Crooked Lane Wares ³⁵	Oylemens Wares	Indigo	Lemons
Dyers Wares	Gardeners Wares	Chocolate	Boxes of Drugs

Table 4.7 Imports Listed from London into Newcastle, 1702-3.³⁶

Most of the ships that would subsequently carry cargo outwards came to the Tyne in ballast, and although they are not recorded in the port books, they can be found in the Newcastle Chamberlains' Books of Receipts and Disbursements, where they are entered as having paid their taxes to the city for the deposition of ballast, and also the local city taxes on coal exports. The fact that of the 2280 coastal shipments which left the Tyne, only 206 (9%) had arrived with coastal inbound cargo suggests that no fewer than 2074 ships arrived in the Tyne carrying ballast in that year. The problem of ballast management will be discussed later in this chapter as it remained a serious issue for those working on the river.

³⁵ Tinwares produced in London, known by the street where they were made.

³⁶ Because of the variable legibility of some of the records in the port books it was difficult to make an accurate quantitative estimate of the number of individual shipments of each commodity, hence this table is designed to provide a qualitative rather than a quantitative perspective of the inward London trade.

It is interesting to see the very wide range of commodities imported from London, a relatively small proportion of which were materials intended for local manufacturing industry. In the light of the observations made by the various essayists in Helen Berry and Jeremy Gregory's compilation of different perspectives upon the developing consumer culture in the North East of England at the time, it is interesting to find that the vast majority of the imports were foodstuffs or wine and spirits, and a large proportion of the remainder were cloths and fabrics associated with clothing and soft home furnishings.³⁷

4.2 Newcastle Port Book 1698-9, Overseas Inwards and Outwards.³⁸

The Newcastle Overseas Inwards and Outwards Port Book dates from 1698-9 and is rather fragile and more difficult to read because of fading and damage. The Outwards Overseas Port Book is better. Each shipment and its destination is clearly identified, giving a better picture of the scope of the overseas mercantile connections of Newcastle at the end of the seventeenth century. The number of outwards overseas shipments when combined with the coastal shipments are shown in Table 4.8, giving an estimate of the *total* export trade of the port, which at over 3000 shipping movements out of the Tyne in a year, implies an average of between nine and ten departures daily. The wide range of foreign destinations are shown in Table 4.9.

Notwithstanding the wide range of foreign ports visited, the most common destination was Amsterdam, which was the recipient of almost half of the shipments, with the North Sea coast of Europe and the Baltic being most often frequented as has been reflected in the literature.³⁹ The commonest cargo was coal with a significant amount of salt, and a variety of general goods (Table 4.10). Drammen, near Oslo, was the second most frequently visited port, and is interesting because it was a major source of the timber products which were imported into the Tyne, in exchange for which the return voyages from the Tyne carried almost exclusively salt, with a few shipments of glass bottles. Aldridge in his review of English east coast trade with the Baltic in 1715 records a total of 125 voyages to the Baltic from Newcastle and the North East ports,

³⁷ Berry and Gregory, *Creating and Consuming Culture*; Ellis, 'The "Black Indies"', 21-6.

³⁸ TNA E/190/207/4

³⁹ Salmon and Barrow, *Britain and the Baltic*.

with a lesser number from ports such as Hull, Bridlington and Yarmouth.⁴⁰ Conversely in our study of the 1699 Newcastle port book we find no fewer than 274 shipments to Norway and the Baltic ports, the most frequented being Drammen which receives no mention in Aldridge's study of 1715. Particularly interesting were shipments to the New World with no fewer than five shipments to Barbados, and also shipments to Boston and Virginia.⁴¹

<u>Month</u>	<u>Coastal</u>	<u>Overseas</u>	<u>Total</u>
January	80	40	120
February	34	54	88
March	183	136	319
April	277	105	382
May	206	64	270
June	185	96	281
July	270	99	369
August	430	68	498
September	299	60	359
October	232	22	254
November	56	10	66
December	25	6	31
<u>Total</u>	2280	760	3040

Table 4.8 Shipments in 1702-3 Coastal and 1698-9 Overseas Outward Port Books

⁴⁰ Aldridge, 'English east coast trade', 123. There are clearly fewer shipments from Newcastle to the Baltic in Aldridge's figures from the 1715 port books, the reasons for this are unclear, however it is possible that the declining salt trade was having an impact on the number of shipments leaving for ports such as Drammen.

⁴¹ The Shipments to Barbados, Boston and Virginia were notable for being large cargoes consisting of a very wide range of consumables, the only ones specific to the Tyne were glass bottles and some grindstones. Ellis, 'The "Black Indies"', 2-12; Purdue, 'Ralph Carr', 165-7; Roberts, 'A Newcastle Merchant and the American Colonial Trade', 271-87.

Amsterdam	305	Lisbon	3
Drammen	177	Northbergen	3
'The Sound'	64	Stockholm	3
Hamburg	51	Bordeaux	2
Rotterdam	29	Dundee	2
Scotland	22	Island (Ireland)	2
Bremen	12	Newport	2
Danzig	11	Archangel	1
Guernsey	9	Bilboa	1
Narva	9	Boston (America)	1
Emden	7	Bruges	1
Copenhagen	6	Konigsberg	1
Norway	6	Oporto	1
Barbados	5	Ostend	1
Dunkirk	4	Queensboro	1
Gottenburg	3	Virginia (America)	1
Jersey	3		

Table 4.9. Newcastle Overseas Outwards Foreign Destinations 1698-9⁴²

Coal
Salt
Glass bottles
Woollen goods
Butter
Lead
Rapeseed
Grindstones
Ironmongery
Haberdashery

Table 4.10 Most Common Cargoes Overseas Outwards 1698-9

⁴² 760 outgoing overseas shipments are recorded on the Newcastle upon Tyne 1698-99 overseas Port Book, however not all of the destination ports were identifiable in the record, with 749 having identifiable destinations with 11 unidentifiable.

The inwards overseas book is difficult to assess because there is some confusion in the layout, with the occasional shipment being identified by the importing merchant's name without the name of the importing ship and its master being included on the same line. This makes the number and source of some of the shipments difficult to determine. In addition a significant number of records suggest that duty is being paid on goods being taken out of a Merchant's warehouse where it must have been stored under bond, having arrived as a shipment into the port sometime earlier. However, despite these issues we have been able to obtain a relatively clear picture of the pattern of overseas imports into the Tyne. The number of identifiable inward shipments is shown in Table 4.11 where it is shown together with the coastal inward shipments giving a picture of the *totality* of the inward trade, which seems to continue at a steady level throughout the whole year, irrespective of inclement weather in the winter. It is clear that there is a major discrepancy between the inward trade which is almost exactly one quarter the volume of the outward traffic, suggesting that three-quarters of those ships that carried outward cargo must have arrived carrying only ballast.

<u>Month</u>	<u>Coastal</u>	<u>Overseas</u>	<u>Total</u>
Jan	30	14	44
Feb	13	17	30
March	10	27	37
April	51	47	98
May	14	52	66
June	12	73	85
July	12	78	90
August	15	68	83
September	9	67	76
October	12	58	70
November	12	47	59
December	<u>16</u>	<u>56</u>	<u>72</u>
	206	604	810

Table 4.11 Shipments in 1702-3 Coastal and 1698-9 Overseas Inward Port Books.

Rotterdam	Bremen,
Hamburg	Konigsburg,
Stockholm	Gothenburg
Bordeaux	Narve,
Amsterdam	Riga,
Scotland	Aalborg,
Norway Sound,	Northbergen,
Emden	Copenhagen
Drammen	

Table 4.12. Ports of Origin of Overseas Inwards Shipments into Newcastle 1698-9.

The very wide range of overseas inward cargo that arrived in the Tyne and its ports of origin can be seen in Tables 4.12 and 4.13. Most of the ports from which ships arrived were in the Baltic, and once again reflected the dominance of the Baltic ports in the trade of Newcastle. The most dominant import was timber arriving from ports such as Drammen in exchange for exports mainly of salt.

<u>Timber Products.</u>	<u>Food.</u>	<u>Cloth.</u>
Small Masts	Cheese	German calico
Oak board	Herring	Wool
Spars	Brandy	Cambrick
Deals	Strasburg Brandy	Flax,
Small oars	Rye	Candlewick
Balks	Battery oats	Divers threads
Staithings	Hopps Canvas	Bruges linen
Roundwood	Middle Malt	Narrow German linen
Handspokes	Capers	Hankerchieves
Firkin Staves	Almonds	Matts for Rooms
Wainscot Boards	Keggs of Sturgeon	Narrow Hollands
Boat Oars		Dansk Napkins
Boat Knees		Thread
Firwood		Polonian Linen
Small Balks		Spinning Wool
Carlings		Course Linen
Middle Balks		Hemp
<u>Miscellaneous.</u>		
Iron	Frying Pans	Kettles
Pantiles	Tarr	Pitch
Brown Paper	Tree Nails	Platters
Bags of Shavings	Oyle of Turpentine	Unbound Books
Quicksilver	Cork	Madder
Reames of Coppie Paper	Earthenware Vessels	Fish Oyle
Mull Madder	Chairs	Wooden Bowls
German Iron	Long Steele	Gally Tiles
Iron Staves	Cordage	Twine
Iron Pots	Tow	Gunn Powder
Linseed Oil	Nails	Sail twine
Sheep Skins	Goat Skins	Calf Skins
Shoemakers Thread	Hair	Brimstone
Boxes of Bound Books		
Separate listings for Rhenish, Spanish and French wines		

Table 4.13. Main Commodities Imported into the Tyne from Overseas 1698-9

4.3 Newcastle Port Book 1756, Coastal Outwards and Overseas Inwards and Outwards.⁴³

The 1756 port books were obtained to identify contacts of Ralph Jackson from entries in his diary, however these books also make an interesting comparison with the 1702-3 port books. Unfortunately the Overseas port book is in rather poor condition and although some individual entries can be read, the legibility is not consistent enough to make a reliable estimate of the shipment numbers. The 1756 Coastal book only contains records for outward shipments and no coastal inwards records. This book is laid out differently from the 1702/3 book as there are no details of the bondsman, and no column to record salt shipments separately, in this book they appear together with other general cargo. The lack of a separate column for salt will be partly a reflection of the decline in the salt trade on the Tyne during the first half of the eighteenth century due to the development of better quality sources, particularly in Cheshire and also abroad in Scandinavia and Poland and the Iberian Peninsula.⁴⁴ The separate column for coal shipments remains. The distribution for those months that were studied are shown in Table 4.14, and a comparison with 1702-3 in Table 4.15.

Comparing the two years there appears to have been a very large increase in shipments during the winter months, mostly to London, of all cargoes including coal, with the proportion of coal being carried together with general cargo rising to around 30%. The nature of the general cargo is shown in Table 4.16, and can be seen to have increased dramatically in variety. The range of exported general goods has increased, with a larger proportion of manufactured goods both made locally and re-exports of other goods from overseas or brought by overland transport. Part of this increased range is occurring because Scottish ports are now coastal rather than overseas since the union, whereas Scotland was considered an overseas country when the 1698-9 port book was compiled. The widening range of destinations for coastal traffic is shown in Table 4.17.

⁴³ 1756 Coastal Outwards, TNA E/190/256/9; 1756 Overseas Inward and Outward, TNA E/190/257/5.

⁴⁴ Ellis, 'The Decline and Fall of the Tyneside Salt Industry', 45-58. Davis, *The Rise of the English Shipping Industry*, 350.

<u>Month</u>	<u>Shipments</u>	<u>London^a</u>	<u>Coal + Cargo^b</u>	<u>Coal alone^b</u>	<u>Cargo alone^b</u>
January	98	55(56%)	37(38%)	57(58%)	4(4%)
February	174	109(63%)	35(20%)	133(76%)	6(3%)
March	126	76(60%)	33(24%)	82(65%)	11(9%)
April	223	126(57%)	56(25%)	154(69%)	13(6%)
May	201	109(54%)	47(23%)	140(70%)	14(7%)
June	296	192(65%)	68(23%)	220(74%)	8(3%)
July	301	176(58%)	73(24%)	213(71%)	11(4%)
August	364	217(60%)	70(19%)	277(76%)	17(5%)
September	302	153(51%)	94(31%)	194(64%)	14(5%)
October	324	181(56%)	84(26%)	230(71%)	10(3%)
November	218	161(74%)	57(26%)	150(69%)	11(5%)
December	202	112(55%)	52(26%)	140(69%)	10(5%)
<u>Totals</u>	2829	1667(59%)	706(25%)	1990(70%)	129(5%)

Note:

^a Percentages are proportion of shipments going to London.

^b Percentages are proportion of total shipments of each type of cargo

Table 4.14. Coastal Outwards Port Book 1756

	<u>1702</u>	<u>1756</u>
January	80 (3.3%)	98 (3.5%)
February	34 (1.3%)	174 (6.2%)
March	183 (8.0%)	126 (4.5%)
April	277 (12.0%)	223 (7.9%)
May	206 (9.0%)	201 (7.1%)
June	185 (8.0%)	296 (10.5%)
July	270 (11.5%)	301 (10.6%)
August	430 (18.5%)	364 (12.8%)
September	299 (13.0%)	302 (10.6%)
October	277 (12.0%)	324 (11.5%)
November	56 (2.4%)	218 (7.7%)
December	25 (1.0%)	202 (7.1%)
<u>Totals</u>	2280	2829

Table 4.15. Monthly Shipments in Coastal Outwards Port Book 1702 and 1756

Salt	Cinders	Glass
Glass bottles	Grindstones	Lead
Iron	Anker chain	Tallow
Linen	Butter	Brandy
Casks of Ale	Peas	Felt Hats
Oats	Copperas	Earthenware Pots
Green oyl	Iron pots	Flour
Combed wool	English woollens	Charcoal
Iron Mongers ware	Wrought Iron	Cast Iron
Spanish wines	English spirit	Leather
Flagstones	Hearth Stones	Tobacco stalks
Candles	Copper	Cheese
Barrel Coffee	English Cordage	Millinery goods
Tanned leather	Barley	Bellows
Powder Sugar	Powder Brimstone	Paper
Starch	Aqua Fortis	Alum
Tobacco Pipes	British Liquid Blue	Tar
Paint	Wheat flour	White leather
Yarn	Deals	Dyersware
Iron Nails	Iron Hoops	Whalebone
Calf skins & hair	Flax	Grass seeds
Spades	Shovels	Mustard
Raisins	Galley tiles	Corks
Salamoniack	Bottled ale	Books
Rum	Beeswax	Whips
Pulled & Combed Wool.	Apples	Leeds wares
Manchester wares	Pickled Cod & Ling	Chaise & Carriage
English Rape Seed	Porter	Worsted stuff
Lead		

Table 4.16. Non-Coal Commodities Coastal Outwards 1756

Lynn	Hull	Wells
Stockton	Aberdeen	Boston
Exeter	Blyth	Dover
Leith	Blakeney	Maldon
Berwick	Portsmouth	Ipswich
Whitby	Cowes	Chichester
Newhaven	Southwold	Sunderland
Wisbeach	Montrose	Inverness
Shoreham	Poole	Yarmouth
Perth	Woodbridge	Faversham
Walsham	Harwich	Weymouth
Bridlington	Sandwich	Rochester
Scarboro	Arundel	Kirkwall
Thurso	Plymouth	Dartmouth
Dundee	Dunbar	Alnmouth

Table 4.17 Coastal Destinations other than London 1756

As there are a number of areas of illegibility in these records, obscuring the full details of a number of the cargoes, and although it is possible to indicate the wide range of commodities exported to other coastal ports, it is not possible to give a reliable estimate of the exact volumes of each commodity. The most prominent reduction was in the amount of salt exported which is substantially less than that reported in 1702 due to the increased availability of other sources, however the largest volumes of exports continued to be cinders, lead, grindstones and glassware, particularly glass bottles. The increase in shipments out of the Tyne includes shipments to local ports such as Blyth, Sunderland and Scottish ports. These were in ships described as Open Boats, which were likely to have been a boat not dissimilar to a keel, which often took heavier goods like iron and lead that would have been difficult to transport overland.⁴⁵

⁴⁵ Many of these local ports were less than a days' sail to relatively local ports and would thus require less accommodation for the crew, similar to the local shipping seen on the rivers Thames and Severn; Blomfield, 'Success and Failure among the Watermen and Lightermen Families of the Upper Tidal Thames'; Hussey, *Coastal and River Trade*, 21-55; Trinder, *Barges and Bargemen*.

4.5 The Management of Ballast.

Little has been written about the ballast contained in ships coming to the River Tyne to load with coal during the seventeenth and eighteenth centuries, even though it is frequently mentioned in contemporary records as an issue of great concern to the Burgesses of Newcastle and all of those who used the Tyne. Henry Bourne in 1734 gives an account of two ships masters being fined five pounds for ... ‘casting ballast between Souter and Hartley to the Damage of the River’. This became such a problem that about 1760 a Mr Liddell proposed a plan for taking the ballast out to sea and dumping it offshore in positions where it would not wash back into the harbour. However in spite of petitions from many ship’s masters the Council failed to act on the suggestion.⁴⁶ There is a very clear account in a document preserved in the Bell Collection which is a letter from a gentleman in Newcastle to a friend in London, dated 1765, in which he recounts the serious problems being encountered with ballast being improperly stored on the banks of the river, resulting in it being washed into the river at high tides and during storms. This often had the consequence of obstruction to the river, causing serious problems to ships and keels attempting to navigate the river, and load or unload their cargoes.⁴⁷

As has been already seen, almost three quarters of the ships which arrived in the Tyne, were carrying ballast, which had to be unloaded before the ship could load its coal. Newcastle provided a number of ‘ballast shores’ where incoming ballast could be deposited. These were a type of staith where a ship or keel could unload ballast and it would be stored in a mound near the river, the mounds often becoming quite large and called ballast hills. This service generated revenue for the town as ship’s masters were charged a fee for this service. In an effort to avoid these fees attempts were often made to evade the regulations by illicitly depositing ballast in the river, as a result of which fines were imposed by the town.⁴⁸ The illicit deposition of ballast in the river together with the erosion of pre-existing authorised ballast shores continued to cause the river to silt up and was a cause of frequent friction between the river users and the town who they regarded as responsible for maintaining the navigability of the river. The impact of

⁴⁶ Bourne, *History of Newcastle upon Tyne*, 160; Guthrie, *The River Tyne, Its History and Resources*, 56-60; Nef, *The Rise of the British Coal Industry, Volume 1*, 31.

⁴⁷ John Bell, *Collections Relative to the River Tyne, Vol. 1*. NCL/LS, L942.8 T987B.

⁴⁸ TWAM, 589, 4-16, f 289. At a Newcastle Common Council meeting on 30th June 1735, a document was issued complaining about the chalk and chalk rubbish and manure, which was being brought to the port as ballast. Instructions were issued to ballast assessors that if they accepted such ballast they would not be paid, and any person who conveyed such ballast from a ship would be fined 20 shillings.

the ballast in limiting the navigability of the river to larger ships was one of the reasons why smaller river craft such as the keels were necessary to carry cargo down the river to be loaded on larger ships moored nearer the mouth of the river. The ballast was usually of sand, which often came from the south east coast in ships working in the coal trade from London. As we have seen earlier in this chapter, ballast sand was not an entirely valueless cargo as it was used as a raw material by the many glass manufacturers, which grew up around the banks of the Tyne around Newcastle.⁴⁹

There are few sources of documentary information about ballast and its handling during the seventeenth and eighteenth centuries. The two most useful surviving documents are, firstly, the Newcastle Common Council Minute Books which record in some detail the proceedings of the Council concerning the management of ballast, giving a picture of how and by whom the ballast was dealt with. Secondly, Newcastle Chamberlain's Account books which list all of the ships which entered the river, deposited their ballast and loaded coal or salt. For each of these transactions the town charged a fee and the entry listed all the fees paid by the ship's master including dues for coal itself, a fee for the ship or boat and the amount of ballast and the fees charged for depositing the ballast, including the ballast shore where it was to be deposited.

The Common Council Books identify much of the process by which ballast was managed.⁵⁰ It would appear that on arrival a ship's master would be allocated to a ballast shore or staith to unload the ballast. Although this may have been done by ballast being unloaded directly onto the staith there are references to keelmen unloading ballast and taking it to the ballast shores - indeed there are references to keelmen being fined for not taking the ballast to the shore for which they had a warrant.⁵¹ Some of the ballast shores used are listed in the Chamberlains' Accounts, often based on their geographical site. The Council minutes however, imply a much wider range of ballast shores referring to many of them by the name of the owner. There are some mentioned which appear to be owned by women, in particular shores owned by Lady Riddell and another owned by Lady Brandling are often mentioned in connection with complaints from them to the council over unpaid fees.⁵² Once the ballast had been loaded onto the staith

⁴⁹ Ridley, 'History of Glass Making', 145-151.

⁵⁰ Newcastle Common Council Books. TWAM 589. 4-16.

⁵¹ Newcastle Common Council Books, TWAM 589, f.246a, 1715. There was a complaint that keelmen were casting their ballast at a ballast shore other than the one for which they had a warrant. In future they would forfeit their dues plus an additional 10 shillings to the informer.

⁵² Ibid. f.361, 1649.

it was then conveyed to nearby ballast hills by women, known as conveyors. There are Council minutes, notably about complaints from a Mrs Alney⁵³ that she had not been paid properly for conveying the ballast, followed by a Council resolution that she should be paid to “convey her heaps of ballast,” followed some months later by a further petition complaining that because she had still not been fully paid she no longer had enough money to feed her children. The council responded by making her a grant of £50 payable in £10 monthly instalments to cover her costs.⁵⁴ The process of ballast management was overseen by a Ballast Office, with an assessor and a team of assistants who were appointed by the Council. In 1660 there is a record of the appointment of Francis Anderson, a merchant, to the post of Water Serjeant ‘to aid the Water Bailiff to make out Ballast Bills and perform the other tasks pertinent to the office of Water Serjeant’, In addition there is a record of a William Cutter being sworn in as Ballast Assessor in June 1657,⁵⁵ but however, he did not last very long in this role as in September 1660 he was discharged, with a minute recording the event as follows:

Whereas William Cutter, wine cooper, was by act of Common Council of 24th September 1655, appointed to assess ballast cast on Jarrow shore, Haineing shore, Cattdeene shore, Hughworth shore, and Felling shore, at a salary of £40 a year and an allowance of £5 towards keeping a horse, whereas he was not well affected towards the present government and neglected orders for assessing ballast, he was discharged and Thomas Maddison, merchant, who had suffered great loss in the late times for his loyalty was appointed to the office during the pleasure of the Council, excluding however Jarrow shore He was to receive the same salary as William Cutter. Orders and Directions to be observed:

1. To diligently attend his work and so discharge his assessment that neither the town, nor the conveyor, nor the master have cause for complaint.
2. To take the advice of the conveyor, or his deputy, or masters of ships if need be, but to keep the whole power in his own hands; to certify his assessment promptly to the ballast office so that no master should lose time in his clearance.
3. To view the shores on his going down and send certificates if need be every morning before 10 o'clock from Lady Day to Michaelmas, before 2 o'clock in the afternoon from Felling, Heworth, Catt Deane, and Haineing shores, and shall send his certificate to the ballast office every day, summer and winter before 2 o'clock in the afternoon and if afterwards the times and hours did not serve for the dispatch and encouragement of trade he was to observe such directions as were appointed by this committee or the Common Council.’⁵⁶

⁵³ Ibid, f.94, 1646.

⁵⁴ Ibid f.141 1647.

⁵⁵ Ibid, f.414, 1657.

⁵⁶ Ibid f.42, 1660. It is possible that the Thomas Maddison referred to in this document was one of the sons of Henry Maddison, formerly mayor of Newcastle who died in 1634, who had a son of that name. Details of Henry’s probate inventory are discussed in Chapter 3 of this thesis.

This document not only gives some insight into the way that local political changes were taking place after the Restoration, but also that those associated with the previous regime lost favour.⁵⁷ It also gives clear insights into how the town and its council managed the very large amounts of ballast that were arriving in the Tyne. Comparison with other ports in England is made difficult by the lack of literature about ballast and its management in the seventeenth and eighteenth centuries. Newcastle is one of the few ports for which there is any reference to ballast,⁵⁸ perhaps because Newcastle was unique in the nature of its main export, coal, which was exported in such large volumes which far exceeded any possible returning import cargo, meaning that far more ballast was likely to be brought into the port than into any other port in the country.

The information in the Chamberlains' Accounts includes the amount of ballast deposited by each ship cleared and the dues charged. It is notable that the ballast weight is expressed in tons as opposed to the coal, which is measured in chaldrons. The amount of ballast carried by each ship is, not surprisingly proportionate to the size of the ship, but was in general equivalent to ten percent of the ship's coal carrying capacity. The ballast records being measured in tons indicate that the amounts each ship was depositing varied from ten to one hundred tons. The detail in the Accounts does allow us to make an estimate of the amount of the dues charged to ship's masters and would appear to have been between nine and ten pence for each ton deposited. The information presented in the 1702 Chamberlains' Accounts is somewhat more simplistic than that in the 1756 accounts. The 1702 book lists the amount of ballast carried and the shore on which it was discharged, details of the ship and its master and a lump sum to cover the sum of all the dues payable. The presentation of the information in the 1756 Chamberlains' accounts is much more complex, as on each occasion the master of a ship is recorded as paying a series of separate dues for his ship including ballast dues, duty on coal and a small charge for his ship or boat, which must be a form of harbour dues, separately all on the date shown in the book. On some occasions however this entry is followed by a series of other entries paying similar dues for previous visits for earlier dates, which have presumably been unpaid. This practice of mixing payments for the date of entry with late payments for earlier visits, together with the inclusion of a very large range of other payments into the town's coffers, ranging from guild payments

⁵⁷ As was noted in the previous chapter members of the Maddison family were notable Puritans, and is very probable that the Thomas Maddison referred to in the above extract of the Common Council minutes was indeed the son of Henry Maddison whose case has been examined in some detail.

⁵⁸ Halcrow, 'Chamberlains' Accounts', 289-291.

to rent for land, makes it extremely difficult for the historian to use these documents to estimate the number of ships coming and going over a defined period. However, particularly in the 1702 book, it has been possible in a number of places to identify the number of daily shipments which show a high degree of concordance with the numbers of shipments identified from the port books described earlier in this chapter.

<u>1702</u>	<u>1756</u>
New Willington	Willington
Jarrow	Jarrow
Ewesburn	Ewesburn
Hebburn	Hebburn
St Anthony's	Anthony's
New Quay	New Quay
Town	Town
Haymans	Brandling
Howdon	Burdons
Walker	Dunstan
Mildam	Town Moor
Heworth	
Lime Kilns	
Brandling	

Table 4.18. Ballast Shores Listed in Newcastle Chamberlains Accounts.

The ballast shores identified in the 1702 and 1756 Chamberlains' Account Books are shown in Table 4.18. The listed sites in many cases represent places that can be recognised today, some others appear on contemporary maps, but there are a few that appear to be named after a person, presumably the person who owned the land or the rights to use it. In most cases, as noted above, the ballast was moved by the women conveyors from the point of landing to a place some distance from the river, as may be seen in the case of the Ewesburn (Ouseburn) ballast hill which subsequently became the ballast hills burial ground which lies many metres away from the river. In this context it is interesting to see ballast recorded as going to the Town Moor, which is a considerable distance from the river.⁵⁹

Although slightly later than the period covered by this thesis there was a pamphlet published by the Port of Newcastle upon Tyne in 1830, signed by the Town

⁵⁹ Perspectives of the Town Moor in relation to the river Tyne may be seen in illustrations included in Chapter 1 of this thesis, Figure 1.5, The Buck brothers engraving of Newcastle upon Tyne in 1745, and Figure 1.6, the Map of Newcastle by Corbridge reproduced in 1723.

Clerk, laying out the rules to be observed by those involved in the handling of ballast.⁶⁰ The document lays out in some detail the processes required for the deposition of ballast by incoming ships, including the need to obtain a warrant from the ballast office. It is clear that keels are playing a vital role in the movement of ballast, carrying no more than eight chaldrons, but it is particularly interesting to find that there were described specific ballast keels which were permitted to carry up to ten chaldrons or thirty tons of ballast, and were specifically marked to enable them to do so. The process allowed for a strict account of the amount of ballast deposited to be kept, and also to control the ballast staith to which it was to be delivered. The key to the process was the ballast warrant which not only contained the instructions as to where the ballast was to be taken, but was endorsed with the amount of ballast that was landed, presumably as a basis for the consequent ballast charges. It is probable that these processes had evolved over a period of years and were very similar to the processes used during the eighteenth century.

4.6 Conclusions.

As we have seen the seventeenth and eighteenth centuries were a period of rapid economic growth in Newcastle upon Tyne, largely as a result of the demand for coal by the growing metropolis of London and the rest of the country. In parallel with the export of coal and other goods there was a flourishing import trade of both foodstuffs and construction materials such as timber from the continent and elsewhere in England. The import of these more utilitarian goods was inevitably accompanied by more luxurious goods, including clothing materials, more exotic foods and wine, Newcastle eventually being supplied directly with a wide variety of consumer goods from the Baltic, the Low Countries and Southern Europe. The consequence of this growth in the local economy was the development of a flourishing middling class of merchants and tradesmen who had increasing expectations about what they might expect from life, creating a demand for household and personal consumables which might both make life at home more

⁶⁰ Port of Newcastle upon Tyne, *Rules and Regulations to be Observer by the Water Bailiff's Boatmen, by the Messengers Employed on Board Ballast Keels, by the Master of Ships and by Ballast Keelmen and Others Employed in the Delivery of Ballast in the River Tyne*, (Newcastle upon Tyne, Printed by J. Clarke, 1830), Newcastle University Libraries, Special Collections, Friends 57.

comfortable, and also embellish their personal appearance, hopefully improving outside perceptions of their relative status in the community.⁶¹

The wide variety of trade that came into Newcastle through the Tyne has been seen in the records of the transactions we have found in the Newcastle port books. These port books provide an illuminating insight into the nature and volume of coastal and overseas trade into and out of Newcastle during the first half of the eighteenth century. As we have already noted a similar analysis has been made of the Port Books of Bristol and the ports around the Bristol Channel by Hussey.⁶² In many respects Bristol makes an interesting comparison with Newcastle. Both were sea ports of long standing but with very different backgrounds, Bristol's success being based on a strategic position with good access to the sea with a variety of distant overseas and local coastal trading links, combined with easy access both by river and road to a large area of southern England. Based on this position a flourishing manufacturing and trading community had developed, enabling Bristol to become one of the largest commercial and trading centres in the country.⁶³ As we have seen in this thesis Newcastle had a similarly long history but, in contrast to Bristol, was based on the exploitation of local natural resources. The large volume and relatively low cost of coal, together with the relative isolation of Newcastle in the North of England stimulated the development of its thriving port. There is a frequently voiced view that at the end of the seventeenth century Bristol was the most active port after London with a particularly strong overseas component to its trade.⁶⁴ When comparing the numbers of shipments from Newcastle, with those described by Hussey for Bristol at the same time, it is interesting to note that Newcastle had *over four times* the number of coastal outward shipments and three times the number of overseas outward shipments, although the profile of the respective trading patterns of the towns were significantly different (Table 4.19). Whereas a very large proportion of international trade to and from the Tyne was directed to Northern Europe, and particularly to the Low Countries and the Baltic, there was also an extensive trade with France, Spain and particularly Portugal. Additionally there appeared to have been a number of shipments to North America and the Caribbean with

⁶¹ Scammell, 'Was the North East Different', 12-23; Helen Berry, 'Creating Polite Space: The Organisation and Social Function of Newcastle Assembly Rooms', in *Creating and Consuming Culture.* ed. H. Berry & J. Gregory, (Aldershot, Ashgate, 2004) 120-140.

⁶² D. Hussey, *Coastal and River Trade.*

⁶³ W.E. Minchington, "Bristol: metropolis of the West in the Eighteenth Century." *Transactions of the Royal Historical Society* 5th Series, 4 (1954) 69-89.

⁶⁴ Willan, *The English Coasting Trade*, 171

<u>Newcastle upon Tyne</u>				<u>Bristol^a</u>			
<u>Coastal (1702)</u>		<u>Overseas (1699)</u>		<u>Coastal(1699)</u>		<u>Overseas</u>	
In	Out	In	Out	In	Out	In (1700)	Out(1688)
206	2280	604	760	920	491	225	240

Source:

^a The data used in this table for Bristol are based on: D. Hussey, *Coastal and River Trade*, 40. This shows in his Table 2.5 the Coastal and Overseas trade of Bristol. The Coastal Out and In data for 1699 come from Hussey himself, The Overseas Inward data for 1700 come from P. McGrath, *Merchants and Merchandise in Seventeenth- Century Bristol*, (BRS, XIX, 1955), using Port Book PRO E190/1158/1. The Overseas Outward data for 1688 also come from McGrath.

Table 4.19. Comparative Levels of Shipments Between Newcastle upon Tyne and Bristol

cargoes of general goods rather than coal. However some of the North American trade from Newcastle was rather different from that of Bristol in that Newcastle was being used as a convenient and relatively cheap transit and customs clearing point for ships originating in Amsterdam, picking up some relatively low cost, heavy ballast cargo on the way. An additional feature which accounts for some of the differences in the number of shipments between Bristol and Newcastle is that the Bristol shipments tended to be of relatively high value per unit volume, such as tea and sugar, when compared with the coal, glass and grindstone trade from Newcastle, which was relatively high volume but low value.⁶⁵ One might speculate that the consequence of this difference would have been that the local economic impact of the higher value Bristol trade was much more substantial than that of the Newcastle coal trade, even though the latter port appears to have recorded a significantly greater number of individual shipments than the former.

Other coastal ports, which had a major impact upon overseas and coastal trade in England during the seventeenth and eighteenth centuries were, on the east coast Hull,

⁶⁵ Ellis, 'The "Black Indies"', 2.

which had substantial exports and imports of a more general type of cargo, but of course without the coal. Ralph Davies described the seaborne trade out of Hull and its dependence on communications through the river systems with Yorkshire and the Midlands, illustrating its links with the Baltic and the Low Countries, which were very similar to those of Newcastle.⁶⁶ On the west coast Liverpool underwent a period of rapid development from being a very minor port in the mid seventeenth century to a substantial port which had largely replaced Bristol as the second most important port in England by the end of the eighteenth century, mainly on the basis of substantial exports of salt and cheese from the surrounding counties.⁶⁷

A feature of the coastal trading out of Tyne that has been shown by this thesis is the significant proportion of ships which carried substantial quantities of general cargo in addition to coal to many of its destination ports including London. This has not been described in such detail in other accounts of the history of Newcastle and the Tyne. This has significant implications for how the river traffic worked and the functions it was intended to perform. In particular, a key reason why colliers loaded coal close to the mouth of the Tyne was that the river was said to be too shallow and tortuous to allow the ships to come up the river to load. If this was indeed the case, it seems implausible that those ships carrying general cargo would load higher up the river, then move the ship to the mouth of the river to load the coal on top of the general cargo. It is more likely that the general cargo was loaded after the relatively dirty bulk coal, implying that it too, was brought to the ship for loading by keel or other working boat. If this was indeed the case it implies a broader spectrum of activity by the keels and those who worked and managed them, indeed we have already seen that some keels were involved in the shipment of ballast to the ballast shores. In the Ralph Jackson diaries there are one or two references to the hostman helping ships' captains arrange other cargoes. This may be another reflection of the wider range of shipping and trading activity that appears in the port books. The information about the volume of sea trade that we have described in this chapter highlights the very large number of ships using the Tyne, and this may have been one of the reasons underlying why so many ships loaded and unloaded close to the mouth of the river. Although we know that Newcastle had what has been described as a large and commodious quay, which was frequented by many ships, we also know that Newcastle was eight miles up the river from Tynemouth, and

⁶⁶ Davies, *The Trade and Shipping of Hull*.

⁶⁷ Stammers, 'Ships and Port Management at Liverpool', 27-50.

although quite large ships could navigate their way up to Newcastle, this might take some time, even with favourable tides and winds. It is quite reasonable to assume that many ship's masters preferred to stay near the mouth of the river to load their cargo, as this would save time and potential risk of stranding while sailing up and down the river, particularly if the river became congested with numerous other ships moving in the river.

The fundamental importance of the free movement of coal and other commodities up and down the river Tyne cannot be underestimated. It was essential to the development of Newcastle in the seventeenth and eighteenth centuries as the major coal-exporting centre which underpinned the growing demands for energy from London and much the rest of the country. This would not have been possible without the skill and flexibility of the local river tradesmen who handled so much of the flow of material to and from the waiting ships, thus enabling the whole process to succeed.

Chapter Five

Ralph Jackson on Tyneside, 1749-1756: A Contemporary Perspective.

When attempting to describe the changes taking place in an urban industrial complex over two hundred years ago there can be few better sources than a first-hand account from a participant. This is particularly true of the water-related trades on the River Tyne during the eighteenth century where the thriving economy was being driven by the demand for coal, particularly from London. We are fortunate to have a diary written by a young apprentice hostman, Ralph Jackson, between 1749 and 1756, which describes in intimate detail his life working in the coal trade along the Tyne. This chapter is a case study of that period in his life at a key time in the evolution of the Tyneside coal industry. To have such an important contemporary source provides an opportunity to draw together many of the aspects of the water trades on the river Tyne which have been discussed earlier in this thesis, particularly because Ralph Jackson describes in some detail the interrelationships between those working at all levels in the coal trade, allowing us to see them in the context of the river trade community as a whole.

Personal journals and diaries have always been a productive source for historians. Such sources relate the numerous and varying accounts of events to the personal experiences of contemporary observers. Nowhere has this been more true than for students of the seventeenth and eighteenth centuries where the contribution of diarists to our knowledge has been studied extensively.¹ In the essay at the beginning of his analysis of the Family Life of Ralph Josselin, in which he examines more closely the background to the edition of the Josselin Diaries published earlier, Alan Macfarlane identifies three main reasons underlying the motives for keeping diaries in the seventeenth and eighteenth centuries. Firstly, many diaries were used as little more than account books detailing the financial transactions of the diarist. The second apparent

¹ Alan Macfarlane, *The Family Life of Ralph Josselin, A Seventeenth Century Clergyman*, (Cambridge, Cambridge University Press, 1970), 3-14; Michael Masuch, *Origins of the Individualist Self, Autobiography and Self-Identity in England, 1591-1791*, (Cambridge, Polity Press, 1997); David Vaisey, ed. *The Diary of Thomas Turner 1754-1765*, (Oxford, Oxford University Press, 1985); Amanda Vickery, *The Gentleman's Daughter, Women's Lives in Georgian England*, (New Haven, Yale University Press, 1998); Helen Berry, 'Sense and Singularity: The Social Experiences of John Marsh and Thomas Stutterd in Late Georgian England', In: *Identity and Agency in England, 1500-1800*, Eds: Henry French and Jonathan Barry, (Basingstoke, Palgrave Macmillan 2004) 178-99.

reason for writing a diary was that they were an aid to the memory of the diarist, recording what he (or she) considered important dates or moments in their lives. The third, and very common motivation was religious, providing an account of the religious life and experiences of the diarist.² Many of these latter diaries were often particularly intense, and appear somewhat self-obsessed.³

5.1 The Ralph Jackson Diaries.⁴

Ralph Jackson was a North Yorkshire Landowner and Businessman, who lived from 1736 to 1790, about whom a considerable amount is known because he kept a diary for over forty years, from the age of 13 until his death. The Diary begins in 1749 when he was enrolled as an apprentice to William Jefferson, a Newcastle hostman. Apart from a break of two and a half years from 1753-1756 the diary was kept consistently for over forty years and amounted to nineteen volumes listed A to U with only one volume, M for 1767-1768 missing. The diary has been preserved in Teeside Archives where it has both been transcribed and made available online, and also as photographic reproductions of the original pages on CD-Rom. Analysis of these original copies of the diaries in the archives confirm that the transcriptions are a faithful representation of the diaries. Indeed it is apparent that even from the first diary the handwriting is remarkably clear, making them very easy to read.⁵ It is also notable that these diaries do not appear to have been studied widely, the only published reference to them being a private publication by the Company of Hostmen of Newcastle upon Tyne to celebrate their four hundredth anniversary.⁶ A detailed search of the bibliographies of diarists showed no evidence of the existence of these diaries being recorded,⁷ although

² Macfarlane, *Family Life of Ralph Josselin*, 3-11; Alan Macfarlane, ed. *The Diary of Ralph Josselin*, (Oxford, Oxford University Press, 1976).

³ Morag Todd, 'Puritan Self-fashioning: The Diary of Samuel Ward', *Journal of British Studies* 31 (1992), 236-64.

⁴ *The Diaries of Ralph Jackson*, Teeside Archives, U/WJ/1-6.

⁵ The Diaries of Ralph Jackson were part of a gift of family documents gifted to Middlesbrough Reference Library by Mr P.W. Ward-Jackson on behalf of the family on 27th March 1961. The collection included diaries from a number of other members of the family between 1749 and 1880. The diaries are all now held in Teeside Archives in the class: *Diary of Ralph Jackson*, U/WJ/1-6. A full transcription of the diaries together with a family tree and glossary of names has been made available by Historic Cleveland on: <http://www.historic-cleveland.co.uk/topics/topics.php?id=5&mode=main>. Accessed 17 June 2010.

⁶ Clifford E. Thornton, *Bound for the Tyne. Extracts from the Diary of Ralph Jackson, Apprentice Hostman of Newcastle upon Tyne*, (Company of Hostmen of Newcastle upon Tyne, 2000). The author is indebted to Sir Leonard Fenwick C.B.E., current Chairman of the Incorporated Companies of the City of Newcastle upon Tyne, who kindly provided a copy of this private publication.

⁷ Arthur Ponsonby, *English Diaries*, (London, Methuen & Co Ltd 1923); Arthur Ponsonby, *More English Diaries*, (London, Methuen & Co. Ltd.); William Matthews, *British Diaries 1442-1942*, (London, Cambridge University Press 1950).

William Matthews in 1950 did note the existence of a diary by a Ralph Ward of Guisborough in Yorkshire, kept as a manuscript in the library of Durham University, which was a farming diary kept only from 1754 to 1756. There must be a distinct



Figure 5.1 Ralph Jackson aged 27 years.⁸

possibility that this was the same Ralph Ward of Guisborough who was the uncle of Ralph Jackson, and with whom he later worked and whose estates he inherited.⁹ There is, oddly, no reference to the Ralph Jackson diary in recent work on eighteenth-century Newcastle.¹⁰ This neglect is unfortunate, since the diary is one of the most detailed that have survived, certainly for the North East, and arguably for the whole country in the

⁸ Historic Cleveland on: <http://www.historic-cleveland.co.uk/topics/topics.php?id=5&mode=gallery>. Accessed 17th June 2010.

⁹ Matthews, *British Diaries*, 86. Refers to the diaries of Ralph Ward of Guisborough kept in Durham University Library, 'Diaries of Ralph Ward' 942.74 WZ.

¹⁰ Ellis, 'A Dynamic Society', 191-227; Ellis, 'The "Black Indies"', 1-26.

eighteenth century. It is difficult to categorise the Ralph Jackson diaries along the lines suggested by Alan Macfarlane, particularly because only a small proportion of the total collection have been examined for this thesis, volumes A to F, which cover the time of his apprenticeship in Newcastle. In addition, there are a number of features about these sections of the diaries that distinguish them from other diaries. Most notably because during the period we are studying when he began his diary, he was aged only thirteen, the main motivation being that of strong advice from his father when he left his home in Richmond for Newcastle. One of the effects of him being so young was that although the entries were made daily, they were initially very brief and direct, often just itemising the activities of the day in the simplest manner. In spite of this the entries describing his work and that of his master were usually quite clear. Diaries have often provided copious material about the range of friends and social or business contacts made by the author, which have often enabled academics to undertake an analysis of their networks of business and social contacts.¹¹ Unfortunately it was difficult, if not impossible to construct a meaningful network of Ralph's social contacts, mainly because he only provided the forenames of most of the individuals concerned, without necessarily including the surname. As a number of his friends shared the same forename, it became difficult at times to be certain to which of his friends he was referring. It was, however, as will be seen, possible to analyse in some detail parts of the network of business contacts of his master William Jefferson, and in particular the ships' captains with whom he was working in the coal trade.

Ralph was one of nine children born to a middling and modestly wealth family in Richmond, Yorkshire. Much of their wealth came from Ralph's mother Hannah who was the sister of Ralph Ward of Guisborough, the wealthy merchant who has been described as the richest commoner in North Yorkshire.¹² Jackson kept the diary through the initial years of his apprenticeship but discontinued it in August 1753, not starting again until March 1756. This was the last year of his apprenticeship, which ended on the 4 December 1756. The importance of these diaries is that they are one of the few primary sources which give a direct insight into the working and business relationships of those involved in trade on the Tyne during the eighteenth century. The diary therefore helps to contextualise and amplify early chapters of this thesis. They are particularly revealing because throughout his apprenticeship Ralph was resident in his

¹¹ Vickery, *The Gentleman's Daughter*, Appendices 4,5; Berry, 'Sense and Singularity', 178-99.

¹² Thornton, *Bound for the Tyne*, 3.

master's house which appeared to be the centre of the hostman's business. He would frequently mention going into 'the office', although it was never made clear whether this office was in his master's house or close by, but the house was clearly a place where William Jefferson met and entertained his clients.¹³ During the early years of the diaries they are less fluent, however, with the passage of time they become more expansive telling us about both Ralph's personal life and also about the business activities of his master, the hostman. After the diaries are re-started in March 1756 Ralph was approaching 20 years old, more mature and the 'young man about town'. These later diaries provide much more information about the business processes and the relationships between the various participants in their network, and as Ralph had almost completed his training, show him to be carrying out most of the tasks of a hostman. On completion of his seven years of apprenticeship Ralph did not stay in Newcastle and become a hostman, but returned to North Yorkshire to work with his uncle Ralph Ward, from whom he subsequently inherited his lands and business on the latter's death in 1759.¹⁴

Ralph married Mary Lewin, the daughter of a successful captain in the East India Company in 1776. Mary died in 1781,¹⁵ however they had four children, three of whom also subsequently died, leaving their son William Ward Jackson (1778-1842) who laid the foundations of the Ward Jackson family who prospered from the industrial development of South Durham and Teeside in the nineteenth century, Ralph Ward Jackson (1806-1880) becoming its most prominent member.¹⁶ Ralph, the diarist, spent the rest of his life as a businessman and country squire in North Yorkshire eventually dying in 1790. Ralph was not the most prominent member of his immediate family. His brother George Jackson (1725-1822) gained a knighthood and became Secretary to the Navy before becoming an MP.¹⁷

¹³ Dendy, 'Company of Hostmen', 193. It was one of the conditions of the apprenticeship that the apprentice was resident with his master.

¹⁴ Thornton, *Bound for the Tyne*, 3.

¹⁵ Ibid. 3

¹⁶ Ibid. 3; Philip Waller, "Jackson, Ralph Ward (1806-1880)," rev *Oxford Dictionary of National Biography*, (Oxford, Oxford University Press, 2004), <http://www.oxforddnb.com/view/article/37591>, accessed 9 Aug. 2010.

¹⁷ Thornton, *Bound for the Tyne*, 3; Sir George Jackson (also called Sir George Duckett) was a zealous patron of Captain James Cook whose father had been a dependant of the family and worked as a stable-boy for Jackson's at Ayton, Yorkshire. In gratitude Cook named Point Jackson in New Zealand and Port Jackson in New South Wales after George Jackson. Michael Duffy, 'Duckett, Sir George, first baronet (1725-1822)', *Oxford Dictionary of National Biography*, (Oxford: Oxford University Press, 2004, online edn. Jan 2008), <http://www.oxforddnb.com/view/article/14524>, accessed 26th Feb. 2011.

The diaries describe what the typical career of an apprentice hostman in the mid eighteenth century would have been like. The first series of diaries between 1749 and 1753 begin on the 16th October 1749 as follows:

My father told me when I began to keep this Journal –
Let not that Day pass by
whose low descending Sun,
Views from thy hand
No noble action done.¹⁸

The following day he went with his father to visit friends and relatives near to his home and then on the 18 October went ... ‘to N. Castle & called at Chester of Street, We Din’d at N.Castle & after that We Went To Mr. Jefferson’s & Lay’d their’.¹⁹ Having stayed with William Jefferson and his family at their home in Newcastle, Ralph’s father left to return home to Richmond. After a few days settling in with William Jefferson and his family, his father returned to Newcastle and Ralph records being bound: ‘Friday got bound at Peacock, My Father, & My Master, Cousin Jefferson, John Campion, Mr. Simson and Mr. French, being present’.²⁰ At this meeting the terms of his apprenticeship were agreed between his father and William Jefferson, in attendance was John Campion who had been Jefferson’s apprentice since 1743, who would be required to complete his apprenticeship before Ralph could start his.²¹ A few days later on the 24 November his Indentures took place at Mr French’s office, following which ‘We Went and Supt at Mrs Hudspeths, it being the first hair [i.e. Hare] that was killed by My Masters bitch, and Played Cards’.²² Now that Ralph was resident with his master, he became part of the family social circle, and in particular spent much of his free time with Jefferson’s nephew Billy Hudspeth and his mother Mrs Hudspeth who was Jefferson’s sister. During the early years of his apprenticeship close attention was paid to Ralph’s education with a number of paid private tutors being employed to

¹⁸ Teeside Archives, <http://historic-cleveland.co.uk/topics/topics.php?id=5&mode=main>; *Diary of Ralph Jackson*, Book A: 16 Oct. 1749. Opening page.

¹⁹ Ibid. 18 Oct 1749.

²⁰ Ibid. 16 Nov. 1749.

²¹ C.E. Thornton, *Bound for the Tyne*, 5; Dendy, “Company of Hostmen,” xvlii, 87,103. The Company determined the rules for its apprentices and recorded them in its records, including a published list of enrolled apprentices and officers; Burn, *The Justice of the Peace and the Parish Officer*, 54-92.

²² *Diary of Ralph Jackson*, Book A, 24th Nov. 1749

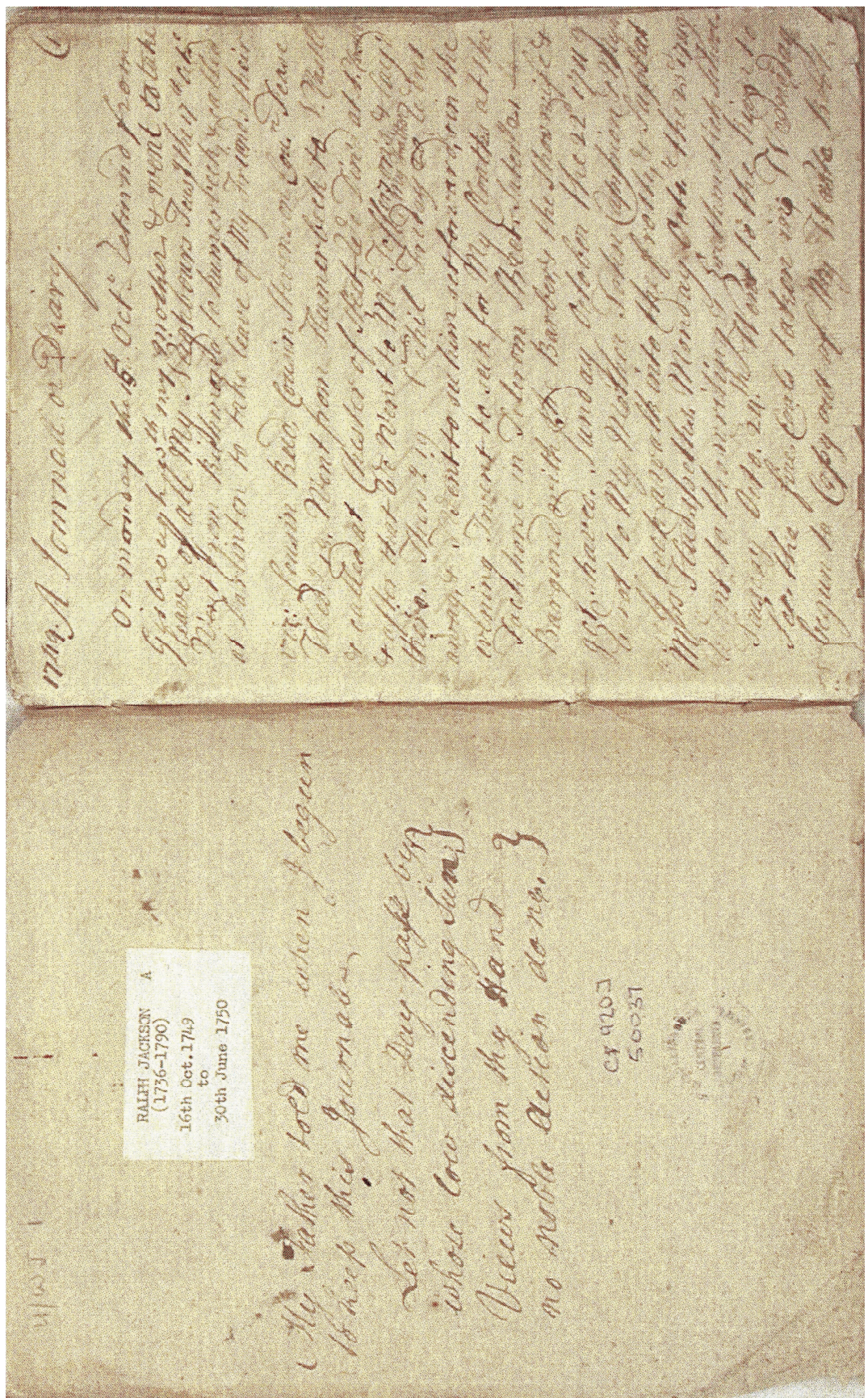


Figure 5.2 The First Page of Ralph Jackson's Diary

improve his skills, particularly in mathematics, these classes being built around the days' tides on the river which were the limiting feature of the coal trade at that time.²³ His life was not all work and study with there being numerous references to walking in the fields, netting wild birds and attending local horse races with his master and friends.²⁴

As would have been normal in an apprenticeship, Ralph became involved in the day-to-day work of a hostman at a very early stage. The diary shows that within a few days of arriving late in 1749 he was involved with the keels and the keelmen, 'Old George and Me, Went to take an account of the Keel Gear, how they Were in Goodness',²⁵ Even though it was late in the year and trade was supposed to slowing down for the winter (See Chapter 4, Table 4.14) masters of ships still came to his master's house to do business, in mid December, '...a Master of a Ship Came to our house and I went to seek for My Master, and the Gentleman & My Master Went and sat the evening together'.²⁶ It became the custom for Ralph to return home over the Christmas and New Year period so there was no record in the diaries of any business transactions undertaken by William Jefferson during Ralph's absence. It has always been thought that the coal trade stopped over the winter due to the bad weather for seagoing ships, and the effect of frost in breaking up the coal.²⁷ However we see from the diary's evidence that the keelmen were being paid, and by implication still working as late as December and as early as February. In addition the Port Books study (Chapter Four) showed conclusively that a significant proportion of the coal export trade did indeed continue throughout the winter, although the Chamberlains' Accounts suggest that not all hostmen were participating.²⁸ A typical entry in late January emphasises not only his participation in working with the keels, but also how his other education was not being neglected:

In the Morning went to Charlton's landing place, to look at the Workmen

²³ Ibid. 30 March 1750, 'My Master Turnbull not being well I went down to the shore in both forenoon and afternoon'; Ibid. 18 June 1750, 'In the forenoon walked about the Key, in the afternoon went to school and bathed, came home and my master and billy came in from the Throckley Fell races'; Ibid. 25th Sept. 1750, 'In the afternoon I spoke to Mr Taylor (about) how he could take me at nights, and he told me half a guinea a quarter and a crown entrance'.

²⁴ Ibid. 12 April 1750, 'In the morning took a walk with Billy to the Forth'. (The Forth was an area of open fields to the West of the City walls); Ibid. 20 Aug. 1750, 'My master and Billy got up early in the morning and went anetting'.

²⁵ Ibid. 12 Dec. 1749.

²⁶ Ibid. 15 Dec. 1749.'

²⁷ Hughes, *North Country Life*, 251; Moller, 'The History of British Coal Mining,' 552.

²⁸ Newcastle Chamberlains' Accounts, TWAS MD.NC/FN/1/1/108.

mending our Keel, came home to dinner, then went to M^r Ackenheads at the bridge for a cash book but he had none, then I went to M^r. Turnbull's and paid him for My Quarters learning, then retired into My room and got a lesson in My Lattin testament, went down and drank Tea, in the evening sat till My Master smoaked a pipe then retired to bed at Ten.²⁹

The diaries illustrate many of the details of the day-to-day work of one of the crucial contributors to the success of the Newcastle coal trade, the hostman. The general principles of the hostman's work have been understood for many years, however the detail given in the diaries amplifies many of these aspects with the immediacy of a first-hand account. The diaries recount how when a ship wishing to load coal arrived at the mouth of the Tyne they moored, usually quite close to the river mouth at North or South Shields.³⁰ The master of the ship then travelled about seven miles into Newcastle, usually on horseback, where he met one of the hostmen, often dining at his house, and negotiated directly the provision of a cargo of coal for his ship. Many of the ships' masters arrived with a clear idea of how much coal they required and from which colliery. Each hostman usually dealt with a group of collieries, for example Ralph's master, Jefferson, dealt mainly in coal from the Longbenton colliery which went down to the Tyne at Winkhamlee Staith, together with some coal from Tanfield and other pits in the Whickham area.³¹ Winkhamlee Staith was very important to the business of William Jefferson, as it was the centre from which much of his coal was distributed and references to it occur very frequently throughout the diaries. Winckhamlee was situated adjacent to the river in the manor of Low Walker, about one mile downstream from Newcastle and can be clearly seen in a contemporary map of the manor dated 1745 (Figure 5.2). It was clearly a place of some local significance as there exists in the Bell Collection a copy of the 'Rules for Managing the Gunpowder Magazine at Wincombe-Lee Quay,' dated 1771.³² When arriving to collect a cargo of coal, the ship's masters would only deal with the hostman who could provide the coal they wanted and at the right price. If this could not be achieved, he would move on to another hostman, suggesting that a larger volume of trade generated a greater volume of activity. This negotiation could only take place between the ship's master and the hostman himself

²⁹ Ibid 29 Jan. 1750.

³⁰ For a full analysis see Chapter 1, 'The River Tyne and its Navigability.'

³¹ Levine and Wrightson, *The Making of an Industrial Society*.

³² John Bell, *Collections Relative to the River Tyne*, Vol. 1, NCL/LS, L942.8 T987B.



Figure 5.3
 Map of the Lordship of Walker showing Winkhamlee Staith.
 Note. Winkhamlee Staith lies just above the final 'R' in 'River'.

and could not be delegated to an apprentice. The process was known as ‘fitting’ or ‘fixing’ a ship, hence the alternative description of a hostman as a ‘fitter’. Once the order for coal was placed the hostman’s apprentice was then sent to organise the necessary number of keels and send them to the appropriate staith to load and take the coal down the river to the ship, which was usually moored at North or South Shields. After the loading of the ship was complete, the hostman himself, or occasionally the apprentice, would accompany the master to the Customs House and the Town House to pay the customs duties and the Town taxes following which the master and his ship would be ‘cleared’ to leave Port. During this process of negotiating, loading and clearing the cargo the ship’s masters often dined at, and frequently stayed in the hostman’s house.³³

As has been demonstrated earlier in this thesis, an essential feature of the carriage of coal down the river by keel, was that keels carried a specific weight of 8 chaldrons, or about 21 tons of coal. This had been defined many years before as a full keel load of coal was used as a basis for taxation by the Crown. In an effort to prevent evasion of the taxes by overloading the keels, they were measured at regular intervals to ensure the accuracy of their loading, and a mark was placed on the waterline. In March 1751 Ralph then writes ‘I got up between five & six o’Clock and lett Jos. out to go and see Ditchburn's Keel Measured wth weights’,³⁴ When referring to their keels they tended to refer to them using the name of the skipper as an identifier. On this occasion the keel was measured using weights which were usually lead weights up to the weight of 8 chaldrons after which the level of the waterline of the loaded keel was marked with nails so that the accuracy of subsequent loadings could be confirmed.

Many of the taxes paid on coal were for internal trade, from Newcastle to other English ports such as London. About 20% of the coal that was exported from Newcastle was taken to foreign European ports and such internal taxes were not payable and a ‘Sufferance’ had to be obtained from the Custom House. The process of obtaining these permits and arranging to load a ship was often marked by a series of social exchanges, for example on the 30th of May 1751 ‘I got up between four and five and went down to Winkhamlee, and I took out a sufferance for Mr. John Jefferson’s Ship, the Richard and

³³ *Diaries of Ralph Jackson*, Book B, 10 June 1751.

³⁴ *Ibid.* 28 March 1751.

Ann for 200 Chalders of Coals’,³⁵ and then on the eighth of June ‘Mr. John Jefferson dined at our house’,³⁶ until finally on the tenth of June ‘In the forenoon my Master and Billy went down to Shields to dine on Board the Richard & Ann of Whitby, Mr John Jefferson master’,³⁷

One of the duties of the apprentice was to keep an account of the hostman’s share of the ‘Vend’, which was the agreed amount of coal that could be sold each week or month. There were close relationships between Jefferson and the other hostmen, and it was quite common for one hostman to borrow coal from another hostman’s stocks when he had a higher than usual demand from ship’s masters to ‘fix’ their ships. At the end of each accounting period the hostman would either pay for the borrowed coal or replace it from his replenished coal stocks. For example in May 1751 Ralph notes that ‘his master sent him to borrow Mrs Hudspeth’s and Mr Henry Atkinson’s Long Benton coals’,³⁸ this entry being particularly interesting as it includes a reference to Jefferson working with one of the few women hostmen Ann Hudspeth whose name was included among the hostmen signing a document listing all of the keelmen they employed, dated 1750.³⁹ This aspect of the trade became a major part of the book-keeping that needed to be done to keep track of a hostman’s accounts and became one of Ralph’s most important functions in the business as is revealed in entries in March 1753: ‘Thursday ... I went to M^r Ackenhead’s & got a Book to copy the Borrowed & Lent Coals into’, and the following day: ‘went into the Office where I drew out the Fitters Accounts for the last year Borrowed & Lent Coals’.⁴⁰ A further entry provides evidence of a ship’s master sharing a ship-load between two different hostmen, and also clear evidence that at least one of the hostmen was female.⁴¹ However, notwithstanding the fact that his master was sometimes critical of his work: ‘My Master was angry at me for not

³⁵ Ibid. 30 May 1751.

³⁶ Ibid. 8 June 1751.

³⁷ Ibid. 10 June 1751.

³⁸ Ibid. 8th

May 1751.

³⁹ In the Newcastle Chamberlain’s Accounts for 1756 (Tyne Wear Archive Service MD.NC/FN/1/1/108) there are frequent references to Mrs Hudspeth completing the clearance of coal-bearing ships. This is almost certainly the same Ann Hudspeth listed as a hostman attached to the list of hostmen which was discussed in Chapter 2 of this thesis, which is in the Bell Collection: John Bell, *Collections Relative to the River Tyne, Vol. 1*, LS/NCL, L942.8 T987B.

⁴⁰ *Diaries of Ralph Jackson*, Book E, 8 March 1753; Ibid. 9 March 1753; Mr Akenhead was a bookseller and publisher who had a shop on the Tyne Bridge and was the source of most of the stationery materials used in the business.

⁴¹ *Diaries of Ralph Jackson*, Book D, 26 Sept. 1752: ‘In the morning Jacky Campion came up but did not give the ship on to any Fitter, I waited upon the Key all the forenoon & after dinner when Campion went down I spoke to him about the Loading of L. Benton Coals & he told me that Mrs Atkinson would Load half the Ship if my Master would the other’.

finishing the ship Richard & Ann of Whitby',⁴² by May 1752, Ralph was clearly making progress and his master gave him possession of: 'one side of a desk space in the Office and a key',⁴³ and before the end of the year he was proudly recounting details of his first personal clearing of a ship.⁴⁴

A key part of the function of the hostman's apprentice was to go to the can-house on a Saturday and pay the keelmen. This payment was based on the number of trips they had made with the tide down to Shields and back to load collier ships with coal. The can-house was what amounted to an alehouse, which was managed by a woman known as the 'can-wife' or 'can-woman'. The can-woman was clearly a person of some importance in the hostman's team, as was shown much later in 1756 by the response to the death of Jefferson's 72 year old can-woman, Margaret Bone. Jefferson and a number of other significant people in the town acted as pall bearers at her funeral.⁴⁵ The main function of the can-house was to serve as a gathering point for the keelmen who would wait there to receive their orders and subsequent payment. The payment was in cash per tide, a tide being the time taken for a single round trip for a keel, going down the river on the ebb loaded with coal and returning on the flood tide, having unloaded the coal into a waiting collier brig. The time of day when the trip took place would vary with the times of the high tides on any particular day. Problems were clearly being encountered with coinage that had been tampered with, known as 'Bad Brass', when paying the keelmen: 'in the afternoon I went to the Canhouse with John to pay the Keelmen we had a great deal of Trouble about the bad brass'.⁴⁶

For many years part of the wages paid to the keelmen had been in the form of the ale which they drank in the can-house, indeed in addition to coal Jefferson appeared to keep quite large stocks of malt, much of which was sold on his behalf by his

⁴² *Diaries of Ralph Jackson*, Book C, 14 Sept. 1751.

⁴³ *Diaries of Ralph Jackson*, Book D, 11 May 1752.

⁴⁴ Ibid. 28 Sept. 1752. 'I got up early in the morning and went down to Winkhamlee, called on board Mr M^cMillans Ship but he was not on board, ... then Mr M^cMillan came up to clear and I got Ralph Morton to go along with me for I had never Cleared a Ship before, then I went with him myself to the Town's house and we cleared the Ship there then we came home and I settled with, he gave me £20.2^s.0^d. in Cash & his promisory Note on demand for 11. 5^s. 0^d which amounted to £31.7^s.0^d.'.

⁴⁵ *Diaries of Ralph Jackson*, Book E, 1 April 1756, 'Margaret Bone my Masters Can-woman died this morning at 4 o'Clock, I went with my Masters service to her Daughter Hannah, to offer anything we had, which might be of service. ... at the request of M^{rs} Hannah Gothard I was a bidder with William Henderson Carpenter, to her Mothers funeral; my Master being comed in in the evening'; Ibid. 2 April 1756, 'After drinking Tea with my master about five o'Clock I got ready and went to Margaret Bones Funeral, my Master, M^r Aubrey Surtees, M^r William Errington, and M^r Rutter Attorney, being Paul Bearers, and about 14 Mourners followed the Corps, the whole being duly regulated, she was inter'd in the East end of All Saints Churchyard. 72 years old'.

⁴⁶ *Diaries of Ralph Jackson*, Book C, 7 March 1752.

apprentice. It is likely that this malt was used in his own brew-house to produce the beer which was consumed by the keelmen in his can-house, as part of their wages.⁴⁷ However, by 1750 this had become a cause of complaint, mainly because the keelmen resented having money deducted from their wages to pay for ale which was provided by their employer in the can house which he also owned. Eventually a statement was circulated:

Every five shillings of market money we receive, there is 3d stopped from each of us. We are oblig'd to spend more of our money than We Can afford in Waiting at these houses for orders, And if we refuse to Wait or Slow in Drinking we are abus'd and threatened by the Can-house keepers who are all the fitter's servants, to be turned out of our keels, and as this rank of our masters (for we have many degrees of masters) as we are informed have no other wages but the benefit of these Can-houses they make it as Considerable a perquisite as possible, for which reason we have not the same liquor as the other Customers but a Certain Other liquor is brew'd for us which they call Savage Beer, or Beer for Savages, at the same time doing us the Honour to take the Gentleman's price for it.⁴⁸

In addition they were obliged to take 'two quarts of bad drink' for sixpence out of a shilling allowed by the coal owners to each crew out of every tide they worked, while for casting the coal on board the ships they usually received only an allowance of beer, though if the usual quantity of beer was not given the crew were entitled to 1s 4d.⁴⁹

As was indicated in the Introduction and Chapter One, the keelmen were an independent-minded group of workers who were not averse to taking industrial action. Throughout the seventeenth and eighteenth centuries there were a series of stoppages and strikes over matters including wages and their working conditions.⁵⁰ One of the first occasion upon which this was recorded was in 1654 when they had a number of grievances including impressments into the navy and the level of their wages. The keelmen joined together as a group and stopped working, and also prevented others from working. The mayor and magistrates made every effort to satisfy them, but

⁴⁷ Leonard Schwartz, 'Custom, Wages and Workload in England During Industrialisation', *Past and Present*, 197 (2007) 143-175.

⁴⁸ Fewster, 'The Keelmen of Tyneside', 29, from a MS 'Petition of the Keelmen' in Newcastle City Archives.

⁴⁹ Ibid. 30.

⁵⁰ Charleton, *Newcastle Town*, 325; Nef, *Rise of the British Coal Industry*, Vol 2, 178-9; Middlebrook, *Newcastle upon Tyne*, 123; Hatcher, *History of the British Coal Industry*, 468; Fewster, 'The Keelmen of Tyneside', 24-33; Fewster, 'The Last Struggles of the Tyneside Keelmen, Part 1', 6; Rowe, 'The Keelmen of Tyneside', 251. Mutinies by the keelmen about their conditions of work and rates of pay occurred on a regular basis with records of disputes in 1641, 1654, 1660, 1676, 1708, 1710, 1719, 1738, 1740, 1744, 1750, 1771, and 1794.

eventually called in troops to quell the disturbance. It would appear that little was done to satisfy their demands and in 1660 there was a further outbreak of trouble resulting in the keelmen blocking the river above the Tyne Bridge, once more requiring soldiers to disperse them.⁵¹ This was the beginning of a long history of industrial action by the keelmen which was highlighted by E.R. Turner in 1916 as one of the first examples of actions by organised labour, preceding that by the Lancashire tailors and wool-combers, which led ultimately to the evolution of trade unionism.⁵²

There was a further strike in 1671 followed by a long series of subsequent stoppages in 1708, 1710, 1719, 1738, 1740, 1744, 1749, 1750, 1771, 1794, 1803, 1809, 1819, and 1822.⁵³ The vast majority of these stoppages were related to the keelmen's working conditions and rates of pay, however the situation was complicated in 1699 when, as a result of an agreement by the keelmen to set aside part of their wages to establish a fund for the relief of their poor and elderly, land was obtained from the town to enable them to build the Keelmen's Hospital which was completed in 1701. The charitable funds that had been raised were initially managed, at the request of the keelmen, by a board of trustees from the stewards of the Hostmen's Company. However, high levels of distrust between the keelmen and the hostmen over the mismanagement of the charity led to its collapse, the charity being wound up in 1712. This distrust led to a variety of petitions to parliament in an unsuccessful attempt to re-establish and wrest control of the charity from the hostmen, which led to continuing ill feeling between the keelmen and their employers.⁵⁴

During the very severe winter of 1739-1740 the shortage of corn led to riots by both the local pitmen and keelmen, during which the authorities lost control. Grain stores and grain ships were raided at the quayside, and the Guildhall was ransacked. Troops had to be called in to quell the riots and at the subsequent Assizes six men were condemned to transportation for seven years.⁵⁵ This was not a typical cause of strife amongst the keelmen, it was more usually due to complaints about their working conditions and payment. Further action occurred four years later in 1744 when a further dispute concerning their conditions escalated. On this occasion troops had again to be

⁵¹ Howell, *Newcastle upon Tyne and the Puritan Revolution*, 292-3; Levine and Wrightson, *The Making of an Industrial Society*, 391.

⁵² E.R. Turner, 'The Keelmen in Newcastle', *The American Historical Review* 21, 3 (1916) 542-5.

⁵³ Rowe, 'The Keelmen of Tyneside', 248-54.

⁵⁴ Ellis, 'A Dynamic Society', 211,

⁵⁵ Middlebrook, *Newcastle upon Tyne*, 123; Fewster, 'The Keelmen of Tyneside, Part II', 28, 32; Ellis 'A Dynamic Society', 213.

sent in when the keelmen struck because their keels were being overloaded by the coal owners who had been forced to give overmeasure because of price-cutting. The keelmen were not being paid to carry the additional coal and their lives were being put at risk by carrying excessive loads in their keels in inclement conditions, particularly near the mouth of the river. The dispute was ended when an agreement was signed limiting the load of coal in each keel to eight chaldrons.⁵⁶ A further long strike lasting seven weeks occurred in 1750 which was once again caused partially by persistent overloading of the keels, but also by a complaint against the practice of the hostmen paying part of the wages of the keelmen in beer at the can-houses.⁵⁷ Once again the military were called in to assist in breaking the strike, however the action persisted and the hostmen attempted to break the action by publishing a list of over eight hundred striking keelmen with a notice to others that the striking keelmen were under bond and any person employing them would be liable to legal action.⁵⁸ Following this they made it clear to the keelmen that they would employ other casual workers to man the keels. Alarmed at this, on 4 May 1750 the keelmen manned their keels and blocked the river, stopping keels that were attempting to work normally and breaking their gear. The military were called to clear the strikers and allow the substitute workers to continue. Seven weeks after the strike began the keelmen were forced to return to work without gaining any substantial concessions other than the re-affirmation of the agreement of 1744. The same problems with overloading continued with further strikes in 1768 and 1770, with the dispute over the can-houses not being finally resolved until 1791.⁵⁹

The often portrayed picture of the keelmen as a disruptive and troublesome element in the developing industries along the Tyne is not entirely justified. Joyce Ellis comments that:

Contemporary comment combines an insistence on dire poverty with an equal insistence on reckless spending, but it is perhaps significant that the keelmen could not only sustain protracted strike action but also in a few individual cases build up a moderate amount of real and personal property. Clearly their problem was not so much one of chronically low wages as of the irregular rewards that went with employment in a fluctuating trade.⁶⁰

⁵⁶ Rowe, 'The Keelmen of Tyneside', 251; Fewster, 'The Keelmen of Tyneside Part II', 67.

⁵⁷ Fewster, 'The Keelmen of Tyneside, Part I', 29; Ellis, 'A Dynamic Society', 212-13; Levine and Wrightson, *The Making of an Industrial Society*, 391; Rowe, 'The Tyneside Keelmen', 251.

⁵⁸ See Chapter 2, in which this document in the Bell Collection is shown and described in more detail.

⁵⁹ Fewster, 'The Keelmen of Tyneside, Part II', 74.

⁶⁰ Ellis, 'A Dynamic Society', 210.

Ellis also noted that the keelmen were far from an anarchic mob and there was little evidence that they were not fully integrated into the community. The most alarming feature for the authorities was that they were able to take direct and very disciplined industrial action, rather than descending into more disorganised protests, and would not hesitate to take well articulated complaints to the coal-owners themselves who had a significant financial interest in the activities of their employing hostmen.⁶¹

It is clear that throughout the seventeenth and eighteenth centuries and up to the time of their demise in the mid nineteenth century, the keelmen significantly influenced the trade on the river by their ability to work together as a cohesive group and attempt to influence the conditions under which they worked in what appears to be a relatively constructive manner. As Ellis has noted, their ability to work together as a group organising disciplined industrial action, and also to achieve such triumphs for the period as the construction of a charitable hospital for their own community, speaks volumes for their relative independence of thinking and sophistication which contradict the often published statements about their bad behaviour. These latter views probably originated from those hostmen and town authorities that were their employers at the time.

As we have just seen, during the first half of 1750 there was a strike or ‘stop’ of keelmen against the overloading of keels and also against ‘can-money’, or the payment of part of the keelmen’s wages in beer at the can-house. Ralph records in his diary the effects of this strike and its consequences for some of the keelmen, providing us with one of the very few first-hand accounts of a keelmen’s strike and its outcome, including what appears to be Ralph’s personal involvement travelling on a loaded keel down to Shields during the strike:

Monday 19 March 1750 ‘In the Morning went onto the Key and looked at the Keelmen as they Stopped all the Keels that went down the river, and I went to school’.⁶²

Tuesday 20 March. ‘Mr Crisp came and Layed at our house that night, we sat and talked about the Keelmen’.⁶³

Friday 30 March. ‘My Master had two of our Keelmen to talk with them about this Stop’.⁶⁴

⁶¹ Ibid., 212.

⁶² *Diaries of Ralph Jackson*, Book A, 19 March 1750.

⁶³ Ibid. 20 March 1750.

Thursday 12 April. ... 'in the afternoon the Keelman Stopped a Keel as she was going up River and broke Gear then got the man a Shore and made a great disturbance in the Town'.⁶⁵

Wednesday 25 April. 'In the Morning went to Towns Court and saw the prisoners carried in'.⁶⁶

Thursday 26 April. 'In the Morning went to School and took a walk to Sandhill and saw some Skippers carried to Newgate'.⁶⁷

Saturday 28 April. 'My Master went to meeting of the fitters'.⁶⁸

Monday 30 April. 'In the forenoon took a walk onto the key and saw the Fitters men bring down the Keels from above Bridge'.⁶⁹

Tuesday 1 May. 'In the morning got up early and went down to Winkhamlee and we went on board a laden Keel and carried her down to Sheels'.⁷⁰

Friday 4 May. ... 'we heard that the Keelmen was risen so we sat still till Supper and then came home'.⁷¹

Wednesday 9 May. 'Went down to Winkhamlee and saw some of the Fitters men dance, (then) came home'.⁷²

Following these events surrounding the keelmen's strike, including what appears to be the hostmen and fitters taking keels down the river themselves, the keelmen seem to have returned to work, hence the celebrations of the fitter's men. However some of the keelmen remained in prison and came to court in August where it appeared that the sentences for the striking keelmen were quite severe including transportation.

Saturday 18 August. 'Got up early in the morning & went to the Towns Court where I saw the Keelmen tried'.⁷³

Monday 20 August. 'In the afternoon walked about the Key & saw the prisoners that was to be transported go down to Shields'.⁷⁴

⁶⁴ Ibid. 30 March 1750.

⁶⁵ Ibid. 12 April 1750.

⁶⁶ Ibid. 25 April 1750.

⁶⁷ Ibid. 26 April 1750; C.E Thornton, *Bound for the Tyne*, 7. Newgate was a prison which served Newcastle from 1400 to 1823.

⁶⁸ *Diaries of Ralph Jackson*, Book A, 28 April 1750.

⁶⁹ Ibid. 30 April 1750.

⁷⁰ Ibid. 1 May 1750.

⁷¹ Ibid. 4 May 1750.

⁷² Ibid. 9 May 1750.

⁷³ *Diaries of Ralph Jackson*, Book B, 18 August 1750.

⁷⁴ Ibid. 20 August 1750; C.E. Thornton, *Bound for the Tyne*, 8. Until the War of Independence in 1776 prisoners were transported to America, thereafter they were transported to Australia after the establishment of a new penal colony in 1788.

Evidence emerges from the diaries of the wide range of other services that were provided by the hostmen to the masters of the ships with whom they dealt, ranging from welfare issues, including attempts to find a doctor to attend a ship's master who was ill,⁷⁵ to the facilitation of other services required including advertising a ship for sale,⁷⁶ negotiating insurance rates for shipments to London⁷⁷ and taking out licenses for carrying brandy.⁷⁸ In addition, the diaries give much more detail about the day-to-day life and work of the apprentice with the keelmen, and also the number of 'fitter's men' who seemed to be part of the team, although their precise role remains unclear.⁷⁹ An entry in June 1753 provides evidence of some of the other cargoes such as 'soap ashes',⁸⁰ that were carried in keels other than coal, which also seemed to be managed by Ralph on behalf of his master.⁸¹

An important issue that affected trade in Newcastle was the navigability of the Tyne and the limitations that the relative shallowness of parts of the river had upon the ability of larger ships to sail up to the quay at Newcastle. That said, a number of entries in the diary refer to quite large long distance cargo ships which were indeed able to reach Newcastle quay. These were a subject of considerable curiosity amongst Ralph

⁷⁵ *Diaries of Ralph Jackson*, Book C, 11-15 March 1751: Monday 11 March (1751). 'In the Evening I went up to Doctor Askues to desire he would go to see Mr Wm Railston Shipmaster at Sheilds, but he was at Durham'.

Tuesday 12 March. 'in the morning I went to see if Doctor Askue could go to Sheilds, but he could not, for he was going to Durham, to see Lau. Rudd was lieing very ill, then went to D^f Lamberts to know if he could go, and he could'. Friday 15 March. 'My Master went down to Mr William Railstone's Funerall'.

⁷⁶ *Diaries of Ralph Jackson*, Book E, 23 Feb. 1753: 'I went up to the Printing Offices to tell them to continue the advertisement of M^r Tabor's Brigg, Marigold, lying at the South Shore w^{ch} is to be sold by applying to my Master'.

⁷⁷ Ibid. 2 March 1753: '---- Sam^l & Jn^o Campion dined at our house. ---- I went to the insurance office to know what they had a hundred for the runn up to London & they told me a Guinea & a half, so I told my Master, for Sam^l Campion wanted to insure'.

⁷⁸ *Diaries of Ralph Jackson*, Book D, 29 May 1752: 'In the morning my Mas^r. sent me to the Excise Office to take out a Brandy Licence for Mr Railston of Jarrah Key'.

⁷⁹ *Diaries of Ralph Jackson*, Book E, 15 March 1753, 'In the morning we heard that Park Coals were to be delivered today so I ordered Alexander down to the Staith and went to order Thompson to Winkhamlee, where I stayed a good while then I went to the Cann house till they drank their Cann then I went down to Winkhamlee in the Keel, was 40 minutes in going down against the Tide wth a strong WesterlyWind, I called at Park as I came from Winkhamlee our business was done, part of Fitter's men came to Geo. Cram's & had something both to eat and drink the names were as follows, Billy Hudspeth, Ra. Simpson, Wm. Carr, Robt. Humble, Thos. Newton, John Simerell, George Blakey & myself, Thos. Hodgson the Offputter was there also'.

⁸⁰ 'Soap Ashes:' Ashes of certain kinds of wood used in forming a lye in soap making.

<http://dictionary.oed.com>

⁸¹ Ibid. 1 June 1753, 'Went with master Billy to W^m Harpers Keel w^{ch} was laying at the other side of the River & was loaded with Soap Ashes, below the Bridge, he told Jn^o I gave him Leave to take the Tide but when I went he said neither with or against it, but before he took the Tide I told my master I advised him not to take the Tide w^{ch} I did do, but did not forbid him to do it, we came across the Water in the same boat we went over in, I walked upon the Key & went to Jn^os, to ask him what Keel was ordered to Winkhamlee'.

and his friends.⁸² It is of interest to note that Ralph was using boats of other types to travel up and down the River for social and recreational purposes, on the fourteenth of July he ‘...went down to Tinmouth in a Werry, and Bathed, and I dined at Mrs Hudspeth's Lodgings, and came home in a Sculler with Mr & Mrs Haxon’.⁸³

Ralph found time to pursue his own family business interests, particularly those associated with his uncle Ralph Ward, making reference in May 1753 to enquiries about the cost of kelp, which his uncle used in his North Yorkshire Alum works.⁸⁴ In addition he spent some time assisting his uncle by following up a long running dispute about sailcloth with the executors of a merchant from Monkwearmouth who had died owing him money.⁸⁵ No entries appeared in the diary from August 1753 and March 1756. Fortunately Ralph started writing his diary again, but by this time he was in his last year of his apprenticeship and the entries are those of a much more confident young man, with a variety of interests. The entries now highlight in more detail aspects of the hostman's work encountered in the earlier parts of his diary.

A major influence on coastal trade and the river during 1756 was the impact of the European wars which were being fought at the time. The Navy was short of volunteers and the press gangs were very active at the time in Newcastle, as the communities along the Tyne had always been a major recruiting area for the Navy, both by voluntary recruitment and from the frequent attention of the press gangs, which had a major impact upon the river trades. Indeed the effect of the press gangs upon the manpower needed to maintain the London coal trade was sufficient to lead to a degree of protection from the press gangs for the crews of colliers and also, to some extent, for keelmen and Ralph regularly reported the arrival of the Navy tender coming to collect more pressed men.⁸⁶ Many other members of the public felt at risk and Ralph records his master's servant hiding in his room overnight to evade the press gang.⁸⁷ Exemptions

⁸² Ibid. 14 June 1753, ‘I went upon the Key I took a walk as far as the West India Ship which was lying nigh the high Crain. I went on board & saw the curiositys as 2 or 3 Tortesses alive, a Parrott & Parrokett, a Negro Boy, Munkey & pine apples with other curiositys which I was a stranger to’.

⁸³ *Diaries of Ralph Jackson*, Book C, 14 July 1751.

⁸⁴ *Diaries of Ralph Jackson*, Book E, 11 May 1753

⁸⁵ Ibid. 8 March 1756. ... ‘I saw M^r Jonathan Sorsbie's Serv^t who told me that nothing as yet had been, done as yet about the Effects of Ra: Cook of Monkwearmouth deceas'd, wherein my Uncle M^r Ra: Ward & Tho^s. Spencer were jointly concern'd, in loss, on the sail cloth Acco^t Ralph's uncle, Ralph Ward, and his cousin, Thomas Spencer, jointly owned a sail cloth factory in Guisborough.

⁸⁶ Nef, *The Rise of the British Coal Industry*, Vol 1, 81-2; Middlebrook, *Newcastle upon Tyne*, 164-5.

⁸⁷ *Diaries of Ralph Jackson*, Book E, 8 March 1756, ... ‘John Dent (my Masters Servant) laid with me this night for fear of the press Gang, who we heard were to go about peoples houses at three orfour o'Clock in the Morning and which I hear was accordingly done in Pandon Street’.

to the press were negotiated by the Town for keelmen and some collier crews so that the flow of coal to London could be maintained. One of Ralph's tasks was to collect these dispensations from the Town offices and give them to the keelmen and the masters of colliers.⁸⁸ Unfortunately few documents survive concerning the arrangements made for the protection of those in what were regarded as essential services, from the attentions of the press gangs. However a number of documents do survive in the Bell Collection from 1803, when the press gangs were particularly active during the Napoleonic campaigns. Among these are the handbills inviting both keelmen and shipwrights to attend the Guildhall to obtain protections from the press gangs. It appears that during this period there were adverts inviting not just keelmen and mariners to join the fleet, but 'shipwrights, under 50 years of age who have served an apprenticeship to enter for His Majesty's service in the Royal Dockyards of the Medway and Portsmouth for a period of three months'.⁸⁹ It is not unreasonable to suppose that similar pressures were placed on both watermen and shipwrights to enlist into His Majesty's service in 1756.

By this relatively late stage in his apprenticeship Ralph was now working almost independently, undertaking the vast majority of the hostman's activities other than the fixing of the coal itself which was still the responsibility of his master. Throughout the last section of his diary from March to December 1756 there are very regular records of masters of colliers coming to agree loading with coal and then being cleared at the Town House for local taxes and the Customs House for excise duties, many of which he took through the clearance process himself, but always in his master's name.⁹⁰ In addition he was now responsible for much of the clerical work and book keeping in the office and supervising the work of the keels and keelmen. A good example of the breadth of skills Ralph had developed was his work in organising the salvaging of keels, which had been damaged on one occasion by a storm, and on another when a keel had run into the Tyne Bridge and sunk. This is a particularly interesting series of diary entries because they give a unique first-hand account of the salvage process and the relative responsibility of those involved:

Thursday 7 October 1756. The last night has been the most Windy I ever knew one, a great deal of damage being done both upon the River & Land, the wind blew hard at flat south about Ten till Twelve & then shifted to the

⁸⁸ *Diaries of Ralph Jackson*, Book F, 2 Oct. 1756. 'I got up early & rode down to Shields upon my Master's Mair & went on board the Mary & Jane, John Galilee, with a Protection'.

⁸⁹ John Bell, *Collections Relative to the River Tyne*, Vol. 2, NCL/LS, L942.8 T987B.

⁹⁰ The entries in the Newcastle Chamberlains Accounts always included the name of the hostman, even when, according to the diaries, the actual clearance was done by Ralph.

West and to the NNW, but no farther. my Master has two loaden Keels sunck at Shields, one of them being moored on board the Diamond M^r Samuel Campion's Ship he expects to be reimburs'd the damage when known, but the other not being moor'd on board any Ship, the Damage falls upon himself, for when a Keel is Moor'd at the Staith and any damage happen her, the Owner of that Staith pays it, but if between the Staith & Ship then the Owner of the Keel, and if moor'd on board of Ship or has been & the Ship People cast her off, then the Owner of the Ship sustains the Loss; a great many other Keels are sunk also at Shields & other Places, & Trees torn up by the Roots.⁹¹

Wednesday 13 October. I breakfasted & rode down to Shields I went over the Water and got the Men to work at weighing my Master's Keel, but to no purpose, tho' two of the Water Bailiffs Men came to help.⁹²

Thursday 14 October. We got another lift at the Keel in the morning but the Ebb being strong she canted, however I dined with M^r Wallas, Carpenter at Shields, & got him to assist us, we then got the Keel Swifted & canted bottom down & brought to the shore by Six o'Clock. John Dent came down a little before & brought me a Letter from my Master with a Letter which he had inclosed that the Town Clerk had sent him by order of Sir Walter Blacket, Bar^t, Mayor & the rest of the Magistrates, containing a Summons to the Court to lay in bail for the Keels being weigh'd, which is first thing of it's kind (for a Keel) ever known.⁹³

Friday 15 October. I rode down to Shields, dined on board the Thomas & Richard & orderd at the Keel every utensal that had been borrow'd for the use of the Keel to be returned to it's proper Owner.⁹⁴

Saturday 16 October. I paid the Keelmen £1:15^s:4^d, & the other Men for assisting at the Weighing of Mr Henderson's Keel Ten Shillings each.⁹⁵

This must have been a period of particularly bad weather, very bad luck or both, because less than a week later Ralph had to organise the rescue of another sunken keel.

Thursday 21 October 1756. I took a walk wth Billy Hudspeth on board New brigg at S^t Anthony's, called the Samuel & Martha of Yarm, M^r Tolver being chief owner & M^{rs} Hudspeth part. John Robinson's Keel was sunk by striking against the Bridge but the Skipper (Robinson) was not in her.⁹⁶

Saturday 23 October. I got up early & went over the water to Hilgate end where the above Keel is lying, we got a light Keel & took part of the Coals

⁹¹ *Diaries of Ralph Jackson*, Book F, 7th Oct. 1756.

⁹² *Ibid.* 13 Oct. 1756.

⁹³ *Ibid.* 14 Oct. 1756.

⁹⁴ *Ibid.* 15 Oct. 1756

⁹⁵ *Ibid.* 15 Oct. 1756; *Ibid.* 16 Oct. 1756.

⁹⁶ *Ibid.* 21 Oct. 1756, It is notable that one of the part owners of the new brigg at St Anthony's was Mrs Hudspeth, illustrating a wider spectrum of investment by the woman hostman.

out, I paid the Keelmen £20:8^s:7^d, got 2 Keels & slung to the sunk Keel which bro^t her nearer the Shore.⁹⁷

Sunday 24 October. I found she laid badly having her Stern in the deep, so I got some of the other Skippers & took all the Coals out of her into another Keel, & I stay'd by her wth the Carpenters all the forenoon, and in the afternoon I went to her again.⁹⁸

A feature of the diaries as a whole, and particularly those of 1756, is the wealth of detail that they provide about the ships and their masters who used William Jefferson to provide the coal that they needed. The hostman's trading relationships with the masters were recorded in some depth, and include the names of the ships and their masters and the dates on which they 'fixed' with Jefferson to buy coal and also the date on which they were cleared to leave (Appendix B). This shows that Jefferson had regular customers. Between March and December 1756, 24 different ships were 'fixed', some of them on five or six occasions, giving a total of 50 ship-loads of coal sold during the period. It is interesting to note that the typical time taken between a ship's master fixing with Jefferson to be loaded with coal, to the master and his ship being cleared from the Customs and the Town to depart was four days. In addition the time taken before the ship returns for another load of coal gives some idea of the time taken to undertake the voyages. Although some ships only made single visits, a significant number were returning at intervals of about four to six weeks for another load of coal. One ship the John and Mary of Whitby, master John Galilee, made six visits between March and October, and several others made four or five visits.

These records are particularly interesting when compared with the entries in both the coastal Port Books for Newcastle⁹⁹ and the Newcastle Chamberlains' account books¹⁰⁰ where matching entries can be found for the vast majority of the shipments mentioned in Jackson's Diary. Of the 50 shipments recorded in the diaries 46 (92%) could be found in the Port Books, itself a useful tribute to the comprehensive nature of the source. The vast majority were for coal shipments alone with only six for shipments of coal together with other articles such as glass bottles, flagstones, grindstones and cinders for east coast ports such as Lynn and Maldon and lead going to London. It is quite possible that the four shipments mentioned in the diaries which did not appear on

⁹⁷ Ibid. 23 Oct. 1756.

⁹⁸ Ibid. 24 Oct. 1756.

⁹⁹ Newcastle Port Books 1756 Coastal, TNA E/190/256/9.

¹⁰⁰ TWAS Newcastle Chamberlains' Accounts of Payments and Disbursements 1756, MD.NC/FN/1/1/108.

the coastal port books, were foreign shipments which would have been recorded in the overseas port books which were not sufficiently legible to provide such detail. The Chamberlains' Account Books similarly record 33 (66%) of the shipments noted in the diary, however the interpretation of recordings of individual shipments in these accounts is complicated by the fact that on many occasions hostmen include town tax payments for many previous separate shipments by the same ship and her master, the highest number being discovered being 32 dating back over 3 years, all entered under the date of the most recent shipment and tax payment.¹⁰¹ This probably explains the lower proportion of matching records in the Chamberlains' Accounts, as those shipments which were not recorded contemporaneously, are likely to have been recorded in later volumes of the Chamberlains' Accounts. The effect of this is reflected in Appendix B where the dates of some entries are substantially different from dates in the diary and port book. The Chamberlains' Accounts also record details of the amount of ballast if carried and upon which ballast shore it was deposited together with the charges. In addition a levy was charged on a 'ship's boat' which is assumed to be the ships tender or dinghy used for ferrying to and from the shore when at anchor in the river. Four ships were recorded in the Chamberlains' Accounts as having no ballast, implying that they arrived in the port with inward cargo and six recorded in the chamberlain's accounts under Jefferson's name were not found at all in the diaries. The coincidence of data from these different sources does provide a degree of triangulation which tends to confirm and support the evidence provided in these diaries about the coal trade in Newcastle during the mid-eighteenth century. It also confirms that the Port Books are a reliable source.

As might be expected, the diaries reveal a great deal about Ralph himself. He was clearly very religious, attending the local Anglican churches twice each Sunday,¹⁰² and spending a significant amount of his spare time reading collections of sermons and other religious tracts.¹⁰³ During the first years of his apprenticeship attention was clearly being paid to his general education, attending classes on a number of subjects including arithmetic.¹⁰⁴ Throughout the period of his apprenticeship Ralph played the German Flute.¹⁰⁵ Having taken lessons he played it almost every day, both on his own and in concert with others and on the 10th of June 1756 he recorded that he had attended a

¹⁰¹ Ibid.

¹⁰² *Diaries of Ralph Jackson*, Book F, 12 Sept. 1756.

¹⁰³ *Diaries of Ralph Jackson*, Book E, 18 April 1753.

¹⁰⁴ *Diaries of Ralph Jackson*, Book C, 26 February 1751.

¹⁰⁵ Ibid. 17 February 1752.

‘Concert of Musick given by Mr Avison in rooms on the Side.’¹⁰⁶ Much of his working day would be spent either on the Quayside networking with other hostmen and apprentices, masters of ships and other tradesmen, or doing clerical work in the office at the hostman’s house. In later years Ralph would often travel to Shields or Jarrow staith and meet ships’ masters on their ships.¹⁰⁷

As Ralph matured he developed a wider circle of friends and activities, developing an active social life frequently taking tea with both gentleman and lady friends, and embarking on quite extensive trips, either on foot or on horseback around the local areas of South East Northumberland, watching horse racing on the town moor and occasionally netting game. On occasion he also embarked with his friends on boat trips on the river. A particularly memorable trip occurred when they hired some keelmen to row a group up the river with the Mayor’s Barge to Stella, up the river from Newcastle close to Newburn, during an annual voyage to mark out the boundaries of the county. It would seem that large quantities of wine were taken and drunk on Ralph’s boat, only to be replaced from those stocked on board the Mayor’s Barge in even larger quantities. The diary notes that Ralph awoke the next morning suffering from the side-effects of this expedition. Ralph clearly enjoyed these trips, as in July 1756 bought himself a part share in a small boat.¹⁰⁸ The nature of his social activities was wide and varied, and during the last year he regularly frequented the local coffee shops, particularly Gray’s, to read the London newspapers and was particularly attentive to the details of the exploits of Admiral Bing in the Mediterranean and their consequences.¹⁰⁹

Towards the end of his apprenticeship, Ralph went back to Richmond and visited his family and also his Uncle in Guisborough. His Uncle suggested that after he finished his apprenticeship Ralph should go to work for him in his business, an offer

¹⁰⁶ *Diaries of Ralph Jackson*, Book E, 10 June 1756., ‘I walked to M^r Addison’s in the Close, who with M^r Dawson M^r Ord & myself went to M^r Avisons private Concert of Musick wch. I thought was very fine’. Charles Avison (1709-1770) was a well known baroque and classical composer based in Newcastle whose music is still highly regarded and often played; Bennett Mitchell Zon, ‘Avison, Charles (bap1710-1770)’, *Oxford Dictionary of National Biography*, (Oxford: Oxford University Press, 2004), <http://www.oxforddnb.com/view/article/925>, accessed 28 Feb. 2011.

¹⁰⁷ *Diaries of Ralph Jackson*, Book F, 15 Sept. 1756.

¹⁰⁸ *Diaries of Ralph Jackson*, Book E, 26 July 1756. ‘I paid Jn^o Dawson One Pound, Eight Shillings & 6d, for a quarter part of a New boat wch he calls Mellnion, wherein himself & M^r W^m Addison is part owners’.

¹⁰⁹ *Ibid.* 29 June 1756. , ‘I went to the Coffee house where I saw a Letter from Adm^l Bing (now in the Mediterranean) in the Gazette wherein he’s thought to give a poor account of himself’. *Ibid.* 26 July 1756, I drank Tea at Miss Fairlams and went to M^r Hindmarches Glover in the Flesh market where I saw Admiral Bings Effigy burnt after he’d been carried round the Town for his ill behaviour in the Mediterranean about 3 Months Ago’. *Ibid.* 27 July 1756, ‘I drank Tea at M^{rs} Forsters, read the London News at the Coffee House and retir’d to bed about Eleven’.

which he appeared to accept with alacrity.¹¹⁰ Following this visit, Ralph returned to Newcastle for his final few weeks as a hostman's apprentice. His apprenticeship was due to end on the 23 November 'Old Stile',¹¹¹ however with the change in the calendar in 1752 with the loss of 11 days Ralph had to wait until the 4 December to complete his apprenticeship. It appears that he did not apply for entry into freedom of the Hostman's Company as there is no mention of it in the Diary and no record in the Chamberlains' Accounts or the Hostmens' Records. Following the end of his apprenticeship he arranged a celebration dinner with several of his friends.¹¹² After what appears to have been a successful evening he packed up all of his belongings, finished off the remaining work in the office and said farewell to all of his friends, leaving Newcastle for the last time on the 9 of December 1756 to begin his new life with his uncle Ralph Ward.¹¹³

¹¹⁰ Ibid. 3 Nov. 1756. 'My Uncle told me this morning that he intends me to live with him after I've served my time out, and God grant I may be of Comfort to him, all my Friends & myself, we walked about, as into the Gardens &c &c'.

¹¹¹ *Diaries of Ralph Jackson*, Book F, 23 Nov 1756.

¹¹² Ibid. 4 Dec. 1756. 'This day my Seventh Years Bond expires allowing the Eleven days also, for the alteration of the Stile in 1752, I went with M^r Ord to M^r Winds in Pilgrom street & bespoke a Supper for Seven of my Acquaintances against Monday night'; Ibid. 6 Dec. 1756. 'I got several odd things that I'm desired to carry home, my Master, or M^r Jeferson & I din'd at M^{rs} Hudspeth's where we had a Pheasant for one Dish, in the evening past five o'Clock, I went to Mr Winds Innkeeper in Pilgrom street, with Seven of my acquaintances, Namely M^r W^m Hudspeth, Tho^s Ord, Allan Robinson, Alex^r Adams, Jn^o Percival, W^m Addison, & Ra: Morton, where we supt upon a Hair, Veal stakes, & an Apple Pye, we parted a little past Ten, & I retired to bed before Eleven'; Ibid. 7 Dec. 1756, 'I had a very indifferent night last night in the Heart burn, tho' was not in Liquer, I went to M^r Winds & paid him £1:2^s:6^d for my Treat last night & to the Servant a Shilling. I finish'd all my Master's Books today, M^{rs} Hudspeth & Misses dined at our House, & I drank Tea there with M^r William only & spent the Evening'.

¹¹³ Ibid. 8 Dec. 1756, 'I Pack'd up all my Cloths & got them to the Carriers'; Ibid. 9 Dec. 1756. 'I took my leave of Newcastle ab^t Ten accompanied by M^r Tho^s Ord to Durham'.

39/ December 1756, Saturday the Fourth,
this day my seventh years Bond expires
allowing the eleven days also, for the alter-
ation of the Ship in 1752, I went with the word
for W. Wills in Dilgoon street & bespoke a Supper
for seven of my acquaintances again on
Monday night first. I finish'd copying
out of my Mas^r. Cash book into that I keep.
I walk'd to Elswick with the two Misses
& Miss Morris, where we drank Tea, this
is my joy with them.

Sunday the Fifth

I went to our Church in the forenoon
dined & drank Tea at M^r Geo. Ord in
Westgate & went to St. John's Church
I went at M^r. Huddesfield.

Monday the Sixth

I got several odd things that I'm desir'd
to carry home, my Mas^r. M^r. Jefferson

Figure 5.4

The Diary Entry when Ralph Completed his Apprenticeship

5.2 Conclusion.

Ralph Jackson's diary has provided a picture of the Newcastle coal trade from the perspective of one of the key players, the hostman. The relationships between the various participants in the coal trade were complex, and the patterns of contact between the different participants recorded in the Diary help to clarify the relationships between the respective groups. The most important relationships in Newcastle were essentially the business relationships between those within the trading network, the coal owners, the hostmen and the masters of the coal-carrying ships, and through them the coal importers, mainly in London whose behaviour would have been influenced by the demands of the merchants and markets where the coal was sold and consumed. Each of these groups would have had their own business infrastructure of employees and apprentices with whatever special skills that were necessary.

The diary, although it relates only to one small, though important part of this chain, the hostman, provides an overall perspective on all the different aspects of the water trades on the river Tyne which have been described in this thesis and how they related to one another to create the dynamic trading community in Newcastle and along its river. The employees necessary to accomplish the hostman's function included his apprentice who essentially fulfilled the role of a management trainee who would assist in the management of the other employees. In the case of the hostmen these latter were the skippers and keelmen who worked the keels which the hostman used to move his coal, the role of the 'fitter's men' who are often mentioned remains unclear. The hostmen did not necessarily own the keels which he used however. As we have shown earlier in this thesis keels were available for rent from shipwrights, and quite probably from other keel owners. The keelmen were often employed on the basis of an annual bond, but paid for work done and the amount of coal carried. A key to the organisation of this process was the can-house where the keelmen met to await instruction or payment which was run by a can-woman who also appeared to be an employee of the hostman, and also supplied the beer provided for the keelmen at the can-house. The arrangements as a whole seemed to work very well during the period covered by the diaries, as there are very few mentions in the diaries of difficulties with the keelmen, apart from the 1750 strike over can-money. The dynamics of these business networks and relationships fluctuated throughout the seventeenth and eighteenth centuries under the influence of extrinsic pressures including the changing demand for coal. However

the diaries provide us with a clearer picture of these structures at an instant in time which is of value in helping our interpretation of changes which occurred both before and afterwards, and put into a clearer perspective those aspects of the water trades along the River Tyne discussed in the previous chapters.

Sadly the diaries, being those of a very young man learning his trade as an apprentice, only reflect on those contacts in his immediate circle and with whom he dealt personally. The effect of this is to limit our ability to learn more about the wider business network of contacts with whom William Jefferson would have been dealing as part of his business as a hostman. The only networks we have been able to explore in some detail are those related to the internal workings of the business itself including the keelman and the operation of the can-house system, together with the network of contacts with the various ships masters with whom Jefferson did business. There were a few brief and rather oblique references to other hostmen and to contacts with some coal owners or their representatives, illustrated by the references to visits made on his master's business to Mr Featherstone's office.¹¹⁴ The majority of references in the diary were to contacts with his family and local close friends in which forenames alone were often used making it extremely difficult to establish the details of his social networks outside his family and that of William Jefferson.

Finally, it is possible to speculate about why Ralph came to Newcastle as an apprentice hostman in the first place. In the seventeenth century it was not uncommon for families of some status to arrange apprenticeships, usually for their male children, in professions or occupations not dissimilar to their own.¹¹⁵ Later in the diaries a John Jefferson is referred to who was a ship owner in Staithes in Cleveland and who was also the brother of William Jefferson, Ralph's master.¹¹⁶ Although there is no specific mention of any overall plan for Ralph's longer term career, it is possible to speculate that the Ward and Jackson families of Guisborough were acquainted with John Jefferson of Staithes and that Ralph's dispatch to Newcastle as an apprentice to William Jefferson, a hostman, was part of an overall family plan for his future and that of the Ward Jackson family business.

¹¹⁴ *Ralph Jackson Diaries*, Book F. Thursday the Twenty Third September. 'I paid M^r Ra: Fetherston on my Mas^{rs} Acco^t for Partnership Coals £100, and I walk'd to Elswick to see M^{rs} Hudspet'.

¹¹⁵ Jane Lane, *Apprenticeship in England, 1600-1914*, (London, Routledge 1996).

¹¹⁶ A glossary of all the names appears in the published transcription of the Diaries, with notes of the relationships to the family provided online at:

<http://historic.cleveland.co.uk/topics/topics.php?id=5&mode=contents&sid=29&i=1> , Accessed 17 June 2010.

Conclusions

The object of this thesis has been to undertake a re-evaluation of the history of the water trades community in Newcastle and along the lower river Tyne in the seventeenth and eighteenth centuries. The historiography of the period has revealed a variety of studies by a number of authors, most of whom have used the same relatively restricted range of primary sources, in particular the records of the Company of Hostmen of Newcastle upon Tyne. This thesis has examined in great detail a number of other contemporary primary sources, some of which have only become available relatively recently.

The thesis began by providing a picture of the social and economic background to Newcastle and the communities along the lower river Tyne during the seventeenth and eighteenth centuries, and set the scene for the remaining chapters in the thesis. The growing size of the population paralleled the progressive growth in the coal trade as the demand from London and elsewhere stimulated the market in Newcastle and its hinterland. The position of Newcastle on the river Tyne, and close to the North East coast had facilitated the development of the trading community which was focussed on the seaborne transport of coal both to the remainder of England, to northern Europe and elsewhere. This community had a number of features unique to the Tyne. The limited navigability of the river fostered a community devoted to both managing and undertaking the transport of coal from riverside staiths to collier ships waiting close to the mouth of the Tyne. The information provided by contemporary maps and charts on the changing navigability of the river over the years, as well as quite remarkable detail about the size and hence capacity of the shipping reaching as far as Newcastle quayside, tend to support the size and variety of both coal and general trade shown in the Port Books of the time, and emphasise the importance of Newcastle as a maritime trading centre.

Examination of the working population of the lower River Tyne between 1600 and 1800, during the period when the community was dominated by the evolving coal trade, confirmed that the coal owners and their agents, the hostmen, controlled the development of the trade and significantly influenced the working lives of all those who

worked as water tradesmen during this period. Coal was not the only commodity to be exported, and as we are now aware there was a significant import trade, particularly of foodstuffs and other consumables. The shallow and tidal nature of the Tyne meant that much of the cargo for export had to be carried in small boats towards deeper water closer to the mouth of the river for loading onto ships, and the process reversed to a degree for imports, although much non-coal import and export activity occurred at the commodious Newcastle quayside. These activities stimulated the development of a thriving community of water tradesmen whose task was to transport the cargoes on the river. Much has been written about the tradesmen, the most well known of whom were the keelmen. The keelmen have been portrayed by a wide variety of authors as a cohesive group of workers, mainly of Scottish origin who worked on a seasonal basis on the river, returning to their homes in Scotland in the winter to rejoin their families. They were said to be a tight knit community, but were always very poor, managing well in the summer when work was plentiful, but experiencing severe deprivation in the winter, when the coal trade was said to be reduced because of cold and inclement weather. Various accounts have been given of their numbers but these were largely anecdotal with little documentary evidence to support them. The thesis explored the characteristics of the community and particularly the extent to which inward migration was a significant contributor. The evidence obtained from the parish registers and censuses confirmed the dominance of the water tradesmen in the riverside parish of All Saints, however the nature of the population seems to be more complex. Several recognised indicators of inward migration indicated a significant level of population growth from outside the community, including an increase in the number of new surnames, which suggest the arrival of new families in a manner very similar to that found in Whickham by Levine and Wrightson.¹ As in that parish there did not appear to be a predominance of Scottish names in All Saints.

The often repeated suggestion that the population of water tradesmen was largely of Scottish origin does appear to be at least partially true, but those that did come usually became settled long term residents and appeared to constitute less than half of the population. The issue of the work and the Scottish workers being seasonal and itinerant is not clear. There was little evidence to support the notion, particularly as there was evidence that keels were used on other work during the winter, and in addition there were a number of clusters of three burials of water tradesmen within a day or two

¹ Levine and Wrightson, *The Making of an Industrial Society*, 179-80.

during the winter period, indicating the possible death of a keel crew at work. The estimates of the size of the keelmen's community from known evidence of coal export volumes appeared to give very reasonable comparisons with those figures appearing in the literature, particularly during the eighteenth century. Estimates made of the population of the parish of All Saints, and Newcastle as a whole, were made using both burial and marriage registers, and as expected the degree of under-registration associated with religious dissent affected the figures derived from burial registers, with the marriage registers providing a more reliable estimate. The changing pattern of the different trades in the last fifty years of the eighteenth century was shown in the parish registers. However throughout this period of accelerating change the water tradesmen remain a significant part of the working community in the parish.

The study of the ownership of working boats and ships on the lower River Tyne in the seventeenth and eighteenth centuries using probate inventories provided some new and interesting perspectives on the trading and investment which occurred at the time. The results of the study were, of necessity, a reflection of the evidence available from the surviving probate inventories. Notwithstanding these limitations, there was data from sufficient inventories to draw some very clear qualitative conclusions, and provide a basis for a number of legitimate, but cautious quantitative conclusions. Many of the owners of small numbers of working boats were of quite modest means, with the value of their boat contributing the vast majority of their wealth. The owners of shares in ships often had a portfolio of shares in quite a large number of ships, each of quite modest individual value, but in total amounting to quite a large sum, this sum being often much less than half of the total estate. The results of the examination of the distribution of boat and ship ownership did reveal some surprises. It was not a surprise to find that Merchants and Hostmen featured prominently in the list of those who owned both working boats and ships, however the unexpected finding of the study was that one of the major contributors, who were significant owners of keels, were the shipwrights who built them. The large numbers owned were more than would be anticipated if their only role was to make keels and we have been able to show that they derived an income by hiring keels to those who used them. Many of the shipwrights additionally had significant ownership of shares in ships, apparently maintaining a financial interest in the ownership and performance of the ships they had built. This contribution of shipwrights to these trading networks has not been described before, demonstrating their participation in the wider business and trading networks that existed on the River

Tyne. The wide discrepancies between the estate sizes of those who owned boats or ships and those who did not, in all of the occupational groups studied, may be indicative of a hierarchy within each of the different occupational groups.

The thesis has demonstrated how the seventeenth and eighteenth centuries were a period of rapid economic growth in Newcastle upon Tyne, largely as a result of the demand for coal by the growing metropolis of London and the rest of the country. The consequence of this growth in the local economy was the development of a flourishing middling class of merchants and tradesmen creating a demand for household and personal consumables, which might both make life at home more comfortable, and also embellish their personal appearance, hopefully improving outside perceptions of their relative status in the community.² This demand for consumables, which stimulated the import and export trade into the river Tyne, was revealed by the wide range of commodities shown in the transactions that were discovered in the Newcastle Port Books. These Port Books provided an illuminating insight into the nature and volume of coastal and overseas trade out of Newcastle during the first half of the eighteenth century. A similar analysis had been made of the Port Books of Bristol and the ports around the Bristol Channel by Hussey which made an interesting comparison with Newcastle.³ Both were sea ports of long standing but with very different backgrounds, Bristol's success being based on a strategic position with good access to the sea with a variety of distant overseas and local coastal trading links, combined with easy access both by river and road to a large area of southern England. Based on this position a flourishing manufacturing and trading community had developed, enabling Bristol to become one of the largest commercial and trading centres in the country.⁴ As we have seen in this thesis Newcastle had a similarly long history but, in contrast to Bristol, was based on the exploitation of local natural resources. The large volume and relatively low cost of coal, together with the relative isolation of Newcastle in the North of England stimulated the development of its thriving port. There is a frequently voiced view that at the end of the seventeenth century Bristol was the most active port after London with a particularly strong overseas component to its trade.⁵ However this study found that Newcastle had over four times the number of coastal outward shipments and three times

² Scammell, 'Was the North East Different from Other Areas', 12-23; Berry, 'Creating Polite Space', 120-40.

³ Hussey, *Coastal and River Trade*.

⁴ Minchington, 'Bristol: metropolis of the West', 69-89.

⁵ Willan, *The English Coasting Trade*, 171.

the number of overseas outward shipments, although the profile of the respective trading patterns of the towns were significantly different. The main differences between Bristol and Newcastle were that the Bristol shipments tended to be of relatively high value per unit volume, such as tea and sugar, when compared with the coal, glass and grindstone trade from Newcastle, which was relatively high volume but low value.⁶ The consequence of this difference would have been that the local economic impact of the higher value Bristol trade was much more substantial than that of the Newcastle coal trade. A notable feature of the shipping patterns revealed by the Port Books was the maintenance of significant coal and general cargo shipments throughout the winter even though at a lower level than during the summer months, a feature that became more marked by the middle of the eighteenth century. This appears to contradict the widely held belief that the coal trade largely stopped completely during the winter months.

The diary of Ralph Jackson has given us the opportunity to gain a contemporary perspective of life at the centre of the trading community in Newcastle in the middle of the eighteenth century. This diary, although it related only to one small, though important part of this chain, the hostman, provided an overall view of all the different aspects of the water trades on the river Tyne which have been described in the earlier parts of this thesis, and in some respects, summarises the complex relationships between the river itself, the river-related trades and the community who lived and worked there. Ralph's accounts of the day to day work of the hostman have been shown to relate very closely to the other sources of information in this thesis, particularly the Port Books and the Chamberlains' Accounts, emphasising that we have been able to gain a very accurate picture of the workings of this aspect of the coal trade in the eighteenth century. The diary highlights the detailed workings of the trade and showed the dynamics of some of the business networks and relationships which fluctuated throughout the seventeenth and eighteenth centuries under the influence of the changing demand for coal.

A feature of the coastal trading out of Tyne that has been revealed by this thesis is the significant proportion of ships which carried substantial quantities of general cargo in addition to coal to and from many of its destination ports including London. This has not been described in such detail in other accounts of the history of Newcastle and the Tyne, but does have significant implications for how the river traffic worked

⁶ Ellis, 'The "Black Indies"', 2.

and the functions it was intended to perform. In particular, a key reason why colliers loaded coal close to the mouth of the Tyne was that the river was said to be too shallow and tortuous to allow the ships to come up the river to load. If this was indeed the case, it seems implausible that those ships carrying general cargo would load that higher up the river, then move the ship to the mouth of the river to load the coal on top of the general cargo. It is more likely that the general cargo was loaded after the relatively dirty bulk coal, implying that it too was brought to the ship for loading by keel, or other working boat. If this was indeed the case it implies a broader spectrum of activity by the keels and those who worked and managed them, indeed we have already seen that some keels were involved in the shipment of ballast to the ballast shores. This may be another reflection of the wide range of shipping and trading activity that appears in the port books. Although we know that Newcastle had what has been described as a large and commodious quay which was frequented by many ships, we also know that Newcastle was eight miles up the river from the mouth of the Tyne, and although quite large ships could navigate their way up to Newcastle, this might take some time, even with favourable tides and winds. It is quite reasonable to assume that many ship's masters preferred to stay near the mouth of the river to load their cargo, as this would save time and potential risk of stranding while sailing up and down the river, particularly if the river became congested with numerous other ships moving in the river.

The fundamental importance of the free movement of coal and other commodities up and down the river Tyne to the economy of the region cannot be underestimated. It was essential to the development of Newcastle in the seventeenth and eighteenth centuries, as the major coal exporting centre which underpinned the growing demands for energy from London and much the rest of the country. This would not have been possible without the skill and flexibility of the local river tradesmen who were essential to the handling of so much of the flow of material to and from the waiting ships, thus enabling the whole process to succeed. The evidence presented in this thesis has supported the hypothesis that the range of trade and its related activities in Newcastle and along the River Tyne, was indeed much more complex than has sometimes been suggested. The water trades community itself has been shown to be more complex than previously thought. Rather than being a purely seasonal and itinerant community, it became a growing and stable community supported by inward migration, both from Scotland and locally, consistent with patterns found in other growing urban and industrial societies. One of the challenges of this thesis has been

collating the vast amount of data contained in primary sources such as probate inventories and Port Books. This was sometimes limited either due to their loss, or if surviving to their physical frailty, which led in many cases to serious difficulty in interpretation such that, in many cases, it was possible to make only a qualitative rather than a quantitative evaluation. As technologies improve it is to be hoped that many more of these sources will become more easily available and readable, potentially leading to a wider understanding of this important area of trade in early modern England.

Appendix A

All Saints Parish Register and Durham Probate Inventory Databases, and Digital Copies of Thesis Illustrations

Integral parts of Chapters Two and Three are the Access databases upon which the evidence discussed is based. These are stored in two separate files on the CD-Rom attached to this thesis. An additional file contains digital copies of some of the maps and illustrations used in this thesis to enable closer study. The individual illustrations are labelled in the same manner as those in the text. The CD is designed to be used with the Windows operating system and Microsoft Access software. The disc includes notes which should help the reader interpret the databases.

All Saints Parish Registers Databases.

Chapter 2 contains an analysis of the population changes in this parish, and this file consists of two databases containing details of the All Saints parish burial and baptism registers between 1600 and 1800. These registers are stored in microfilm in TWAM and in transcription versions in Newcastle City Libraries in the local Studies section. The registers contain details of occupation enabling the entries related to those working in the water trades to be identified. The Access databases included contain all of the data upon which the tables and charts related to burial and baptism registers in Chapter 2 are based.

Tyne Water Trades Database.

Chapter 3 is based on the discussion of the ownership of property, particularly that of the working boats and ships that used the Tyne and were fundamental to underpinning the success of Newcastle upon Tyne as a trading centre during the seventeenth and eighteenth centuries. The prime sources for this chapter are the 796 probate inventories from the Durham Probate Registry which are shown in this Access database upon which the tables, charts and consequent conclusions are based. The original documents are stored within the Durham University Library special collections. They are categorised within the DPRI/1 section, which includes all probate documents from the consistory court of the Church of England diocese of Durham up to 1858. They are classified by a DPRI/1 code which, together with the name and parish of origin, identify the position of the original document in the Durham Probate Registry archive.

Appendix B

Ships 'Fixed' by Newcastle Hostman Jefferson between March and December 1756. as described in the Ralph Jackson Diaries.

<u>Ship</u>	<u>Ship's Master</u>	<u>Diary^a</u>	<u>Port Book^b</u>	<u>Chamberlain's Accounts^c</u>
<i>John & Mary of Whitby</i>	John Galillee	1/3 9/4	4/3, London 114, 13/4, London 114,	1/3 Ball. Will. Cl 40. 17/5 Ball. Anth 24. Cl 110 7/5 Ball. Will. 30, Cl 110 16/6 Ball. Burd 50. Cl 112
		8/7 3/8 1/9 28/9	8/7 London 116, 2/8 London 115, 1/9 London 122, 28/9 London 119.	8/7 Ball Will. 52, Cl 112 2/8(1/9) Will. 50, Cl 112 1/9, Ball Will. 50, Cl 112
<i>Samuel of London</i>	Joseph Aust	2/3	2/3 London 118.	2/3 Ball Will. 60, Cl 118.
<i>Warren of London</i>	Joseph Martin	4/3	13/3. London 105	
<i>Myrtilla</i>	Josiah Martin	17/3		
<i>Old Fortune of Whitby</i>	Fergus Forster	5/4 8/9	7/4, London 85 8/9 London 88	
<i>William & Mary of London</i>	James Tippell	9/4 5/6 2/7 27/9 16/11	12/4, London 24 8/6 Maldon 27 14/7 Maldon 27 + Flagstones & Bottles, 1/10 Maldon 27 + 600 doz bottles, 20/10 Yarmouth 36,	12/4, Ball Will. 14, Cl 24 5/6, Ball Will. 14, Cl 28 14/7(21/8), Ball Will. 16, Cl 27. 21/8 No Ballast, Cl 27. 1/10, Ball Anth. 14, Cl 24. 22/11, No Ballast, Cl 26.
<i>Elizabeth of Scarboro</i>	William Smith	15/4 2/6	24/4 London 110 + 36 fothers lead, 6/6 London 102	3/6 Ball 30 B'ling, Cl 108 3/6 Ball 40 Wills, Cl 108
<i>Two Brothers of Newcastle</i>	Thomas Lammas	3/5 15/9 17/10	3/5 Yarmouth 36, 20/10 Yarmouth 36,	
<i>Brilliant Star</i>	Nicholas Frampton	10/5 23/7	15/5 Portsmouth 60, 23/7 Poole 60,	15/5, Ball Jarr. 76, Cl 60 22/7, Ball Jarr. 60, Cl 60
<i>Good Intent</i>	Edward Dillon	10/5	18/5 Falmouth 80	
<i>Betsy of Pool</i>	Robert Rickarby	2/6	9/6 Poole 67,	7/6, Ball Will. 50, Cl 64

	29/7 27/9	4/8 Poole 64,	
<i>Contents Increase</i>			
Peter Jackson	2/7	6/7 London 169,	6/7, Ball, Burd. 54, Cl 160
<i>Joseph and Samuel</i>			
Samuel Brown	8/7	8/7 Lynn 36 + 1Ch Grindstones.	
			8/7(23/8) Ball Jarr. 24, Cl 36
			23/8, Ball Jarr. 24, Cl 36.
<i>Samuel & Robert of Yarmouth</i>			
William Sergeant	27/10	28/10 London 156.	
<i>Molly of Ipswich</i>			
John Cuffley	9/7	13/7 Ipswich 64,	
	16/8	19/8 Ipswich 64,	
<i>Fortune of Yarmouth</i>			
William Hillam	29/7	2/8 Harwich 64,	2/8 Ball Anth. 20, Cl 52.
	26/8	30/8 London 52,	30/8(1/10) Ball Will. 26,
			Cl 50
	27/9	1/10 London 50	1/10, Ball Will. 20, Cl 50.
	15/11	15/11 Yarmouth 52.	15/11, Ball Will. 30 Cl 48
<i>Triton of Whitby</i>			
Richard Knaggs	29/7	4/8 London 164,	6/10 (4/8) Ball Will. 60,
			Cl 164
	5/10	5/10 London 96,	6/10, Ball Jarr. 80, Cl 144
<i>Luke & Nelly</i>			
John Clifton	10/8	13/8 Lynn 32 + 24Ch Cinders,	
			13/8 (18/9) No Ballast, Cl 32
	5/9	18/9 Lynn 42 + 4 Ch Cinders,	
			18/9, No Ballast, Cl 40
<i>Joseph & Samuel of Bridport</i>			
James Brown	23/8	23/8 Lynn 36,	
<i>Diamond</i>			
Samuel Champion	24/8	27/8 London 94,	
	11/10,		
	18/11	23/11 London 88,	
<i>Hannah of Whitby</i>			
William Galillee	17/9	17/9 London 76,	
	20/10	20/10 Harwich 76,	
<i>William of Whitby</i>			
William Richardson	18/9	18/9 London 72,	18/9, Ball Jarr. 30, Cl 68.

Thomas & Rachal of Whitby

Nathaniel Campion 17/10 30/10 London 218,
York of York

John Edmonds 20/10 20/10 London 97,
Edward of Scarboro

Thomas Russell 10/11(27/9) Ball Wills 64,
Cl 208

11/11 9/11 London 209. 10/11, Ball L'ming 40,
Cl 208

<u>Number of Entries</u>	50	46	33
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Notes. ^{a.} The dates in the Table represent the dates in the diaries when the ships and masters were identified. There were a number of entries in the Chamberlains' Accounts where ships 'fixed' by Jefferson were not mentioned in the diaries.

^{b.} The Port Book entries show the date of the entry, which was not always the same as the diary entry, and the destination together with the amount of coal carried in Newcastle chaldrons. Any other cargo also identified.

^{c.} The Chamberlains' Account entries show the date of the shipment, those entries which were retrospective show the date of the entry in brackets; Ballast =Ball., The Ballast shores were; Will.= Willington, Jarr. = Jarrow, Anth. = St Anthony's, B'ling = Brandling, Burdo. = Burdons, L'ming = Laming. The coal was described in Newcastle Chaldrons = Cl, and in some cases the amounts shown were slightly less than those shown for the same shipment recorded in the port books.

Bibliography

Archival Sources

The Borthwick Institute, University of York:

The Prerogative Court of York (PCY) Probate Inventories.

The British Library, (BL).

Burney Collection of Newspapers,

Newcastle Courant. 1725, 1756.

Durham University Library, (DUL).

Durham Probate Records, GB 033 DPRI. 1600-1750

Durham Probate Inventories in DPRI/1. 1600-1750

Eighteenth Century Collections Online.

The Case of the Poor Keelmen of Newcastle upon Tyne. ?1712

A Farther Case of the Poor Keelmen of Newcastle upon Tyne. ?1712

Newcastle Libraries and Information Service, Local Studies Section (NCL/LS)

The Bell Collection.

John Bell, Collections Relative to the River Tyne its Trade and the Conservancy, Vols. 1 & 2. L942.8, T987B

Parish Registers (Transcriptions), L929 3/N536:

Gateshead,

Jarrow/ Heworth,

Longbenton,

Newburn,

Newcastle All Saints,

Newcastle St Nicholas,

Newcastle St Johns,

Newcastle St Andrews,

South Shields,

Tynemouth,

Wallsend,

Whickham,

Local Newspapers.

Newcastle Courant. 1725, 1756

Newcastle University Robinson Library, Special Collections.

Port of Newcastle upon Tyne, *Rules and Regulations to be Observed by the Water Bailiff's Boatmen, by the Messengers Employed on Board of Ballast Keels, by the Masters of Ships and by Ballast Keelmen, and Others Employed in the Delivery of Ballast in the River Tyne.* (Newcastle upon Tyne, Port of Newcastle, 1830), Friends 57.

The National Archive (TNA):

The Prerogative Court of Canterbury (PCC) Newcastle and District Probate Inventories 1600-1750 PROB 3, 4, 5, 16, 31 and 32.

Exchequer Kings Remembrancer: E/190.

Newcastle Port Books: 1698-99. TNA: E/190/207/4

Newcastle Port Books: 1702-3 TNA: E/190/209/1

Newcastle Port Books: 1755-56.

Coastal Outwards: TNA: E/190/256/9

Overseas Inward and Outward. TNA: E/190/257/5

Teeside Archives.

Diaries of Ralph Jackson, U/WJ/1-6.

Tyne Wear Archives and Museums (TWAM):

Keelmens Papers, GU. 394 (Part MF). 1160

Newcastle Chamberlains' Accounts of Payments and Disbursements, MD.NC-FN-1-1-65, -68, -108.

Newcastle Common Council Books, 589. 4-16.

Newcastle Quarter Sessions Papers, QS.NC, Part MF.

H. Moll Map of River Tyne 1650, dx275.4.

Greenville Collins Chart of the Tyne 1693, d.ncp.5.1.

Map of the Tyne 1700-1750, d.ncp.5.2.

Map of the Tyne 1765, d.ncp.5.3.

Corbridge Plan of Newcastle 1723, 825.

Bielby map of Newcastle 1788, d.ncp.2.8.

Records of Ballast Hills Burial Ground, MF.

Records of the Company of Hostmen of Newcastle upon Tyne. GU.HO.298.

Records of the Company of Shipwrights of Newcastle upon Tyne. GU.SH

(Part MF).

Records of the Company of Merchant Venturers of Newcastle upon Tyne, GU.MA.298.

All Saints Parish Settlement Records, MF.356.

All Saints Parish Overseers Accounts, MF.349.

Printed Primary Sources.

Akenhead, D. *The Picture of Newcastle Upon Tyne*, (London: Facsimile Reprint, E & W Books Ltd. 1969, 1807).

Anon. 'The Case of the Poor Skippers and Keelmen of Newcastle, Truly Stated: With Some Remarks on a Printed Paper Call'd and Pretended to Be Their Case', In: Eighteenth Century Collections Online. London: Gale, 1712?

———. 'A Father Case Relatinf to the Poor Keelmen of Newcastle', In: Eighteenth Century Colections Online. London, 1712?

———. *Port of Newcastle Upon Tyne; Rules and Regulations 1830*, (Newcastle upon Tyne: Clayton, Town Clerk, 1830).

———. *The Shipowner's Manual; or a Seagoing Man's Assistant*, (Newcastle upon Tyne: D. Akenhead, 1795).

Baillie, John. *An Impartial History of the Town and County of Newcastle Upon Tyne and Its Vicinity*, (Newcastle upon Tyne: Vint and Anderson, 1801).

Bourne, Rev. Henry. *The History of Newcastle Upon Tyne*, (Newcastle upon Tyne: John White, 1736. Reprint, Frank Graham 1980).

Brand, John. *The History and Antiquities of the Town of Newcastle Upon Tyne*, 2 vols, (London, 1789).

Burn, Richard. *The Justice of the Peace, and Parish Officer, 4 Vols*, (London: Printed by W. Strachan & M Woodfall for T. Cadell, 1772).

Campbell, R. *The London Tradesman*. Vol. 1, (London: T. Gardener, 1747. Reprint, David and Charles, Newton Abbot 1969).

Charleton, R.J. *Newcastle Town*. 4th ed., (London: Walter Scott, 1885. Reprint, 1978).

Defoe, Daniel. *A Tour Thro' the Whole Island of Great Britain*. Vol. 2., (London: 1726, Frank Cass & Co Ltd, 1927, 1968).

Graunt, John. *Natural and Political Observations on the Bills of Mortality*, (London, 1662).

Gray, William. *Chorographia, or a Survey of Newcastle Upon Tyne*, (Joseph Crawhall 1883 ed. 1 vols. Newcastle upon Tyne, 1649. Reprint, Frank Graham 1970).

- Hinde, J.H. 'On the Original Site and Progressive Extension of Newcastle Upon Tyne; with an Estimate of Its Population at Various Periods', *Archaeologia Aeliana*, 2nd Series (New Series), Vol 3. (1859): 53-64.
- Holmes, J.H.H. *A Treatise on the Coal Mines of Durham and Northumberland*, (London: Baldwin, Cradock and Joy, 1816).
- Mackenzie, E. *Descriptive and Historical Account of the Town and County of Newcastle Upon Tyne*. 1st ed. Vol. I & II, (Newcastle upon Tyne: Mackenzie and Dent, 1827).
- Taylor, T.J. 'The Archaeology of the Coal Trade', *Proc. Arch. Inst. Newcastle*, (1852).

Secondary Sources.

- Albert, William. *The Turnpike Road System in England 1663-1840*, (Cambridge: Cambridge University Press, 1972).
- Aldcroft, D. and Freeman M. *Transport in the Industrial Revolution*, (Manchester: Manchester University Press, 1983).
- Aldridge, David. 'English East Coast Trade with the Baltic in the Closing Years of the Great Northern War 1714-21', *Britain and the Baltic*, eds. Patrick Salmon and Tony Barrow, (Sunderland: Sunderland University Press, 2003), 119-30.
- Arkell, T. 'Multiplying factors for estimating population totals from the hearth tax', *Local Population Studies*, 28 (1982) 51-57.
- Arkell, T., 'The Probate Process', *When Death do us Part*, eds. T. Arkell. N. Evans, and N. Goose, (Oxford: Leopards Head Press, 2000), 3-13.
- Arkell, T. 'Interpreting Probate Inventories', *When Death Do Us Part*, eds. T. Arkell , N. Evans, and N Goose, (Oxford: Leopards Head Press, 2000), 72-102.
- Arkell, T, Evans N. Goose N. eds. *When Death Do Us Part*, (Oxford: Leopards Head Press Ltd., 2000).
- Ashton, T.S. and Sykes, J. *The Coal Industry in the Eighteenth Century*, (Manchester: Manchester University Press, 1929).
- Barke, Michael. 'The People of Newcastle: A Demographic History', in *Newcastle Upon Tyne, a Modern History*, eds. Robert Colls and Bill Lancaster, (Chichester: Phillimore, 2001), 133-66.
- Barke, Michael. 'The Pre-Civil Registration Population of Newcastle Upon Tyne: Estimating Vital Events', *Northumbria University, Division of Geography and Environmental Management, Occasional Papers*, 37 (2000).

- Barrow, T. 'Corn, Carriers and Coastal Shipping', *Journal of Transport History*, 21, 1 (2000), 6-27.
- Barrow, T. *The Whaling Trade of North-East England 1750-1850*, (Sunderland: Sunderland University Press, 2001).
- Beier, A.L. and Finlay, R. *The Making of the Metropolis: London 1500-1700*, (London: Longman, 1986).
- Berry H, and J. Gregory, eds. *Creating and Consuming Culture, 1660-1830*, (Aldershot: Ashgate, 2004).
- Berry H. 'Creating Polite Space: The Organisation and Social Function of Newcastle Assembly Rooms', *Creating and Consuming Culture in North East England 1660-1830*, ed. H. Berry, and J. Gregory, (Aldershot: Ashgate, 2004), 120-40.
- Berry, H. 'Sense and Singularity: The Social Experiences of John Marsh and Thomas Stutterd in Late-Georgian England', *Identity and Agency in England, 1500-1800*, eds. Barry J. and H. French, (Basingstoke: Palgrave Macmillan, 2004).
- Beveridge, William. *Prices and Wages in England from the Twelfth to the Nineteenth Century*, (London: Longmans, Green & Co., 1939).
- Bond, M. 'Materials for Transport History Amongst the Records of Parliament', *Journal of Transport History*, 4, no. 1 (1959), 37-52.
- Bradley, L., 'An Enquiry into Seasonality in Baptisms, Marriages and Burials', *Population Studies from Parish Registers*, ed. Michael Drake, (Matlock: Local Population Studies, 1982).
- Brewer, John, Roy Porter, ed. *Consumption and the World of Goods*, (London: Routledge, 1993).
- Brewer, John and Ann Bermingham *The Consumption of Culture, 1600-1800: Image, Object, Text*, (London: Routledge, 1995).
- Buckatzsch, E.J. 'Places of Origin of a Group of Immigrants into Sheffield 1624-1799', *Economic History Review*, 2nd series, 2. (1949), 303-6.
- Chalklin, C.W. *The Provincial Towns of Georgian England*, (London: Edward Arnold, 1974).
- Chartres, J.A. *Internal Trade in England 1500-1700*, (London: Macmillan, 1977).
- Chartres, J.A. 'Spirits in the North East? Gin and Other Vices in the Long Eighteenth Century', *Creating and Consuming Culture in North East England, 1660-1830*, eds. H. Berry and J. Gregory, (Aldershot: Ashgate, 2004), 37-56.
- Clark, P., *The Cambridge Urban History of Britain; Volume 2 1540-1840*, (Cambridge: Cambridge University Press, 2000)

- Clark, P. *The Early Modern Town*, (Open University Press, 1976).
- Clark, Peter. 'The 'Mother Gin' Controversy in the Early Eighteenth Century', *Transactions of the Royal Historical Society*, 5th Series, 38 (1988), 63-84.
- Corfield, P. 'A Provincial Capital in the Late Seventeenth Century: The Case of Norwich', *Crisis and Order in English Towns 1500-1700*, eds. P. Clark and P. Slack, (London: Routledge, 1972), 263-310.
- Corfield, Penelope. 'Urban Development in England and Wales in the Sixteenth and Seventeenth Centuries', *The Tudor and Stuart Town: A Reader in English Urban History, 1530-1688*, ed. Johnathan Barry, (London: Longman, 1990), 35-62.
- Cox J., Cox, N., 'Probate 1500-1800: a System in Transition', *When Death do us Part*, eds. T. Arkell, N. Evans and N Goose, (Oxford: Leopards Head Press), 14-37.
- Cromar, P. 'The Coal Industry on Tyneside 1715-1760', *Northern History*, 14 (1978), 193-207.
- D'Cruze, S. 'The Middling Sort in Eighteenth Century Colchester: Independance, Social Relations and the Community Broker', *The Middling Sort of People*, eds. J. Barry and C. Brooks, (London: Palgrave, Macmillan, 1994), 181-207.
- Davies, J.C. 'Shipping and Trade in Newcastle Upon Tyne, 1294-1296', *Archaeologia Aeliana*, 4th Series, Vol 31. (1953), 175-204.
- Davis, R. *English Overseas Trade 1500-1700*, (London: Macmillan, 1973).
- Davis, R. *The Rise of the English Shipping Industry in the Seventeenth and Eighteenth Centuries*, (London: Macmillan & Co Ltd., 1962).
- Davis, R. *The Trade and Shipping of Hull 1500-1700*, (Beverley: East Yorkshire Local History Society, 1964).
- Dear, I.C.B. and Kemp, P., ed. *The Oxford Companion to Ships and the Sea*. Second Edition, (Oxford: Oxford University Press, 2005).
- Dendy, F.W. 'Extracts from the Records of the Company of Hostmen of Newcastle Upon Tyne', *Surtees Society*, 105 (1901): 332.
- Dendy, F.W. 'Extracts from the Records of the Merchant Adventurers of Newcastle upon Tyne, Vol I', *Surtees Society*, 93 (1894): 315.
- Dendy, F.W. 'Extracts from the Records of the Merchant Adventurers of Newcastle Upon Tyne, Vol II', *Surtees Society*, 101 (1899), 421.
- Dietz, Brian. 'Overseas Trade and Metropolitan Growth', *London 1500-1700: The Making of the Metropolis*, eds. R.A.P Finlay and A.L. Beier, (London: Longman 1986), 114-140.

- Dietz, B. *The Port and Trade of Early Elizabethan London: documents*. (London: London Record Society, 1972).
- Dietz, B. 'The North East Coal Trade, 1550-1750: Measures, Markets and the Metropolis', *Northern History*, 22 (1986), 280-94.
- Drake, M., *Population Studies from Parish Registers*, (Oxford: Open University Press, 1982).
- Drake, M. *Time, Family and Community*, (Oxford: Open University Press, 1994).
- Dyos, H.J. 'Transport History in University Theses', *Journal of Transport History*, 4, 3 (1960), 161-73.
- Dyos, H.J. 'Transport History in University Theses, 1959-63', *Journal of Transport History*, 7, 1 (1965), 54-56.
- Dyos, H.J. and Aldcroft, D.H. *British Transport*, (Leicester: Leicester University Press, 1969).
- Earle, Peter. *The Making of the English Middle Class: Business, Society and Family Life in London 1660-1730*, (London: Methuen, 1989).
- Ellis, J. 'A Bold Adventurer: The Business Fortunes of William Cotesworth, c1668-1726', *Northern History*, 17 (1981), 117-32.
- Ellis, J. *A Study of the Business Fortunes of William Cotesworth, c1668-1726*, (New York: Arno Press, 1981).
- Ellis, J. 'The Decline and Fall of the Tyneside Salt Industry, 1660-1790: A Re-Examination', *Economic History Review*, 33 (1980), 45-58.
- Ellis, J. 'A Dynamic Society: Social Relations in Newcastle-Upon-Tyne 1660-1760', *The Transformation of English Provincial Towns 1600-1800*, ed. P. Clark. (London: Hutchinson & Co., 1984), 190-227.
- Ellis, J. 'Cartels in the Coal Industry on Tyneside 1699-1750', *Northern History*, 34 (1998), 134-48.
- Ellis, J. *The Georgian Town 1680-1840*, (New York: Palgrave, 2001).
- Ellis, J. 'The "Black Indies": The Economic Development of Newcastle, c1700-1840', *Newcastle Upon Tyne, a Modern History*, eds. Robert Lancaster and Bill Colls, (Chichester: Phillimore, 2001), 1-26.
- Engerman, S.L. and O'Brien, P.K. 'The Industrial Revolution in Global Perspective', *The Cambridge Economic History of Modern Britain.*, eds. R. Floud and P. Johnson, (Cambridge: Cambridge University Press, 2004), 451-64.
- Fewster, J.M. 'The Keelmen of Tyneside in the Eighteenth Century', *Durham University Journal*, 50 (1957), Pt.1 24-33, Pt.2 66-75, Pt.3 111-23.

- Fewster, J.M. 'The Last Struggles of the Tyneside Keelmen', *Durham University Journal*, 55 (1963), 5-15.
- Finch, R. *Coals from Newcastle*, (Lavenham, Suffolk.: Terence Dalton Ltd., 1973).
- Flinn, M.W. *The History of the British Coal Industry; 1700-1830: The Industrial Revolution*. (Oxford: Oxford University Press, 1984).
- Forster, E. *The Keelmen*. (Newcastle upon Tyne: Frank Graham, 1970).
- Fraser, C.M. 'The Early Hostmen of Newcastle Upon Tyne', *Archaeologia Aeliana*, 5th Series, Vol 12. (1984), 169-79.
- Fraser, C.M. 'The Masters and Mariners of Newcastle Upon Tyne in the Late Seventeenth Century', *Archaeologia Aeliana*, 5th Series, 33 (2004), 161-73.
- Fraser, C.M. 'Medieval Trading Restrictions in the North East', *Archaeologia Aeliana*, 4th Series, Vol 39. (1961), 135-50.
- Fraser, C.M. and Emsley, K. 'Newcastle Merchant Venturers from West Yorkshire', *Archaeologia Aeliana*, 5th Series, Vol 6. (1978), 117-29.
- Freeman, Mark, Robin Pearson and James Taylor. 'Technological Change and Governance of Joint-Stock Enterprise in the Early Nineteenth Century: The Case of Coastal Shipping', *Business History*, 49, 5 (2007), 573-94.
- Gibb, Andrew, 'Industrialisation and Demographic Change: A Case Study of Glasgow, 1801-1914', *Population and Society in Western European Port-Cities, c. 1650-1939*, eds: R. Lawton and R. Lee, (Liverpool: Liverpool University Press 2002), 37-73.
- Grassby, Richard. *The Business Community of Seventeenth-Century England*, (Cambridge: Cambridge University Press, 1995).
- Grassby, Richard. 'English Merchant Capitalism in the Late Seventeenth Century. The Composition of Business Fortunes', *Past & Present*, 46 (1970), 87-107.
- Greenwell, W. 'Durham Wills and Inventories, Part II', *Surtees Society*, 38 (1860): 414.
- Griffiths, Bill. *Fishing and Folk, Life and Dialect on the North Sea Coast*. (Newcastle upon Tyne: Northumbria University Press, 2008)
- Grigg, D.B., 'E.G. Ravenstein and the "Laws of Migration"', *Journal Of Historical Geography*, 2 (1977), 41-51.
- Guthrie, James. *The River Tyne, Its History and Resources*, (Newcastle upon Tyne: Andrew Reid, 1880).
- Halcrow, Elizabeth M. 'The Chamberlains' Accounts of Newcastle Upon Tyne', *Journal of the Society of Antiquaries*, 1, 10 (1955), 289-91.

- Harding, Vanessa. *The Dead and the Living in Paris and London, 1500-1670*, (Cambridge: Cambridge University Press, 2002).
- Hatcher, J. *The History of the British Coal Industry, before 1700: Towards the Age of Coal*, (Oxford: Clarendon Press, 1993).
- Hausemann, William J., 'Size and Profitability of English Colliers in the Eighteenth Century', *Business History Review*, 51 (1977), 460-73.
- Hausman, William .J. 'Market Power in the London Coal Trade: The Limitation of the Vend, 1770-1845', *Explorations in Economic History*, 21 (1984), 383-405.
- Hewitt, F.S. 'Value to Economic Historians of the Buddle Papers', *Mining Engineer*, 25-36 (1962), 406-12.
- Hey, David. *Packmen, Carriers and Packhorse Roads*, (Leicester: Leicester University Press, 1980).
- Hodgson, J. 'Durham Wills and Inventories', *Surtees Society*, 112 (1906): 213.
- Hoon, Elizabeth Evelynola. *The Organisation of the English Customs System*, (Newton Abbot: David & Charles, 1938).
- Houston, R.A. *The Population History of Britain and Ireland 1500-1750*, (Basingstoke: Macmillan Education Ltd., 1992).
- Howell, Roger, ed. *Monopoly on the Tyne, 1650-58; Papers Relating to Ralph Gardner*, (Newcastle upon Tyne: The Society of Antiquaries of Newcastle upon Tyne, 1978).
- Howell, Roger. 'Newcastle and the Nation: The Seventeenth Century Experience', *The Tudor and Stuart Town, a Reader in English Urban History, 1530-1688.*, ed. Johnathan Barry, (London: Longman, 1990), 274-96.
- Howell, Roger. *Newcastle Upon Tyne and the Puritan Revolution*, (Oxford: Oxford University Press, 1967).
- Hughes, E. *North Country Life in the Eighteenth Century; the North East, 1700-1750*. (Oxford: Oxford University Press, 1952).
- Humphrey-Smith, C.R., ed. *The Phillimore Atlas and Index of Parish Registers*. (Chichester: Phillimore & Co. Ltd., 1984).
- Hussey, D. *Coastal and River Trade in Pre-Industrial England; Bristol and Its Region 1680-1730*, (Exeter: Exeter University Press, 2000).
- Hyde, Ralph. 'Seven Manuscript Thames Charts by Greenville Collins', *Journal of the Society of Archivists*, 5 (1974), 38-40.
- Jackman, W.T. *The Development of Transportation in Modern England*, (London: Frank Cass & Co. Ltd., 1962).

- Jarvis, R.C. 'The Appointment of Ports', *Economic History Review*, 2nd Series, 9 (1958): 463.
- Jarvis, R.C. 'Critical Historical Introduction', *The Organisation of the English Customs System*, E.E. Hoon, (Newton Abbot: David & Charles, 1938), vii-xxvii.
- Jarvis, R.C. 'Sources for the History of Ports', *Journal of Transport History*, 3, no. 2 (1957): 76-93.
- Kitch, M.J. 'Capital and Kingdom: Migration to Later Stuart London', *London 1500-1700: the Making of the Metropolis*, edited by A.L. Finlay and R. Beir, (London: Longman, 1986.) 283-335.
- Kung, Enn. 'English Commercial Activity in Narva During the Second Half of the Seventeenth Century', *Britain and the Baltic*, eds. Patrick Salmon and Tony Barrow, (Sunderland: Sunderland University Press, 200), 77-109.
- Kussmaul, A. *A General View of the Rural Economy of England, 1538-1840*. (Cambridge: Cambridge University Press, 1990).
- Landau, Norma, 'The regulation of Immigration, Economic Structures and definitions of the Poor in Eighteenth-Century England', *The Historical Journal*, 33, 3 (1990), 541-72.
- Landau, Norma. 'Who was subjected to the Laws of Settlement? Procedure under the Settlement Laws in Eighteenth-Century England', *Agricultural History Review*, 43 (1995), 139-59.
- Lane, Jane. *Apprenticeship in England, 1600-1914*, (London: Routledge, 1996).
- Langton, J. 'Residential Patterns in Pre-Industrial Cities: Some Case Studies from Seventeenth-Century Britain', *Transactions of the Institute of British Geographers*, 65 (1975), 1-27.
- Langton, John. 'Residential Patterns in Pre-Industrial Cities: Some Case Studies from Seventeenth Century Britain', *The Tudor and Stuart Town, a Reader in English Urban History, 1530-1688*, ed. Barry Johnathan, (London: Longman, 1990), 166-205.
- Lasker, G.W. and Roberts D.F., 'Secular trends in relationship as estimated by surnames: a study of a Tyneside parish', *Annals of Human Biology*, 9 (1982), 299-307.
- Lawton, Richard, 'The Components of Demographic Change in a Rapidly Growing Port-City: The Case of Liverpool in the Nineteenth Century', *Population and Society in Western European Port Cities, c. 1650-1939*, eds. R. Lawton and R. Lee, (Liverpool: Liverpool University Press, 2002), 91-123.

- Lee, Robert, Richard Lawton, 'Port Development and the Demographic Dynamics of European Urbanisation', *Population and Society in Western European Port-Cities, c. 1650-1939*, eds: R. Lawton, R. Lee, (Liverpool: Liverpool University Press 2002), 1-37
- Levine, D. and Wrightson, K. *The Making of an Industrial Society*, (Oxford: Clarendon Press, 1991).
- Macfarlane, Alan. *The Diary of Ralph Josselin*, (London: Oxford University Press, 1976).
- Macfarlane, Alan. *The Family Life of Ralph Josselin, a Seventeenth Century Clergyman, an Essay in Historical Anthropology*, (Cambridge: Cambridge University Press, 1970).
- Mascuch, Michael. *Origins of the Individualist Self, Autobiography and Self-Identity in England, 1591-1791*. (Cambridge: Polity Press, 1997).
- Matthews, William. *British Diaries 1442-1942*, (London: Cambridge University Press, 1950).
- McCord, Norman. *North East England, the Region's Development 1760-1960*, (London: Batsford Academic, 1979).
- McCord, Norman. *Strikes*. (New York: St Martin,s Press, 1980).
- McKendrick, Neil., John Brewer and J H Plumb. *The Birth of the Consumer Society: The Commercialisation of Eighteenth-Century England*, (London: Europa Publications Ltd., 1982).
- Middlebrook, S. *Newcastle Upon Tyne, Its Growth and Achievement*, (Newcastle upon Tyne: Newcastle Journal, 1950).
- Middlebrook, S. *Picture of Tyneside, or Life and Scenery on the River Tyne Circa 1830*, (Newcastle upon Tyne: Oriel Press Ltd, 1969).
- Minchington, W.E. 'Bristol - Metropolis of the West in the Eighteenth Century', *Transactions of the Royal Historical Society*, 5th series, iv (1954), 69-85.
- Mitcalfe, W.S. 'The History of the Keelmen and Their Strike in 1822', *Archaeologia Aeliana*, 14 (1937), 1-17.
- Mokyr, J. 'Accounting for the Industrial Revolution', *The Cambridge Economic History of Britain*, eds. R. Floud and Johnson, P. (Cambridge: Cambridge University Press, 2004), 1-27.
- Morgan, G. and Rushton, P. *Rogues, Thieves and the Rule of Law; the Problem of Law Enforcement in North East England, 1718-1800*. (London: University College London Press, 1998).

- Muller, Leos. 'Britain and Sweden: The Changing Pattern of Commodity Exchange 1650-1680', *Britain and the Baltic*, eds. Patrick Salmon and Tony Barrow, (Sunderland: Sunderland University Press, 2003), 61-76.
- Nef, J.U. *The Rise of the British Coal Industry*, 2 vols, (London: George Routledge & Sons Ltd., 1932).
- O' Brien, John B., 'Population, Society and Politics in Cork from the Late-Eighteenth Century to 1900', *Population and Society in Western European Port-Cities, c. 1650-1939*, Eds: R. Lawton and R. Lee, (Liverpool: Liverpool University Press 2002), 326-46.
- Osler, A. and Barrow A. *Tall Ships Two Rivers*. (Newcastle upon Tyne: Keepdate Publishing Ltd, 1993).
- Osler, A.G. 'Aspects of the Tyne's Overseas Trade as Evidenced by the Customs Bills of Entry, 1862-1880', *Archaeologia Aeliana* 5th Ser. 36. (2007), 325-39.
- Osler, A.G. 'Newcastle's Last Mayoral Barge', *Archaeologia Aeliana*, 5th Ser. 16. (1988) 239-43.
- Overton, M. 'Prices from Probate Inventories', *When Death do us Part*, ed. T. Arkell, N. Evans and N. Goose, (Oxford: Leopards Head Press, 2000), 121-41.
- Overton, M., Whittle, J., Dean, D. and Hann, A. *Production and Consumption in English Households, 1600-1750*. (London: Routledge, 2004).
- Petty, Sir William, 'Another Essay in Political Arithmetick Concerning the Growth of the City of London. 1682', *The Economic Writings of Sir William Petty*, ed. C.H. Hull, (London, 1899).
- Phelps Brown H. and Hopkins, S.V. *A Perspective of Wages and Prices*, (London: Methuen & Co., 1981).
- Ponsonby, Arthur. *English Diaries*, (London: Methuen & Co., 1925).
- Ponsonby, Arthur. *More English Diaries*, (London: Methuen & Co., 1927).
- Pratt, E.A. *History of Inland Transport and Communication in England*, (London: Kegan Paul, Trench, Truber & Co., 1912).
- Prior, Mary. *Fisher Row; Fishermen, Bargemen and Canal Boatmen in Oxford, 1500-1900*, (Oxford: Clarendon Press, 1982).
- Purdue, A.W. *Merchants and Gentry in North East England, 1650-1830*, (Sunderland: Sunderland University Press, 1999).
- Purdue, Bill. 'Ralph Carr: A Newcastle Merchant and the Baltic Trade in the Eighteenth Century', *Britain and the Baltic*, eds. Patrick Salmon, and Tony Barrow (Sunderland: Sunderland University Press, 2003), 157-68.

- Ridley, U. 'The History of Glass Making on the Tyne and Wear', *Archaeologia Aeliana*, 4th series, Vol 40. (1962), 145-62.
- Rimmer, W.G. 'The Evolution of Leeds', *Thoresby Society Transactions*, 50 (1967): 91-2, 107-29.
- Roberts, William. I. 'A Newcastle Merchant and the American Colonial Trade', *The Business History Review*, 42 (1968), 271-87.
- Robinson, A.H.W. *Marine Cartography in Britain, a History of the Sea Chart to 1855*, (Leicester: Leicester University Press, 1962).
- Rowe, D.J. 'The Decline of the Tyneside Keelmen in the Nineteenth Century', *Northern History*, 4 (1969), 109-31.
- Rowe, D.J. 'The Keelmen of Tyneside', *History Today*, 19 (1969), 248-54.
- Rowe, D.J. 'The Records of the Company of Shipwrights of Newcastle Upon Tyne 1622-1967', *Surtees Society*, 181 (1970), 1-203.
- Salmon, Patrick and Tony Barrow, eds. *Britain and the Baltic*, (Sunderland: Sunderland University Press, 2003).
- Scammell, Lorna. 'Was the North East Different from Other Areas? The Property of Everyday Consumption in the Late Seventeenth and Early Eighteenth Centuries', *Creating and Consuming Culture in North East England 1660-1830.*, eds. H. Berry and Gregory J., (Aldershot: Ashgate, 1996), 12-23.
- Schwarz, Leonard. 'Custom, Wages and Workload in England During Industrialisation', *Past & Present*, 197 (2007), 143-75.
- Smith, R. *Sea-Coal for London*, (London: Longmans, 1961).
- Snell, K.D.M. 'Pauper settlement and the right to poor relief in England and Wales', *Continuity and Change*, 6, 3 (1991), 375-415.
- Souden, D. 'Migrants and the Population Structure of Later Seventeenth-Century Provincial Cities and Market Towns', *The Transformation of English Provincial Towns 1600-1800*, ed. P. Clark, (London: Hutchinson & Co., 1984).
- Speck, W.A. *A Concise History of Britain*, (Cambridge: Cambridge University Press, 1993).
- Spufford, M. *Small Books and Pleasant Histories*, (London: Methuen & Co., 1981).
- Spufford, Margaret. *The Great Reclothing of Rural England, Petty Chapmen and Their Wares in the Seventeenth Century*, (London: The Hambledon Press, 1984).
- Stammers, Michael. *Sailing Barges of the British Isles*, (Stroud: The History Press, 2008).

- Stammers, Michael. 'Ships and Port Management at Liverpool before the Opening of the First Dock in 1715', *Transactions of the Historical Society of Lancashire and Cheshire*, 156 (2007), 27-50.
- Taylor, Patrick. Alan Williams, 'The Newburn wherries: remnants of the River Tyne's industrial past', *Archaeologia Aeliana*, 5th Series, 39, (2010), 401-425.
- Taylor T.J., 'Archaeology of the Coal Trade', *Proceedings of the Archaeological Institute of Newcastle upon Tyne*, (!852),159.
- Thornton, C.E. *Bound for the Tyne, Extracts from the Diary of Ralph Jackson, Apprentice Hostman of Newcastle Upon Tyne, 1749-1756*, (Newcastle upon Tyne: Company of Hostmen of Newcastle upon Tyne, 2000).
- Todd, Morag. 'Puritan Self-Fashioning, the Diary of Samuel Ward', *Journal of British Studies*, 31 (1992), 236-64.
- Trinder, Barrie. *Barges and Bargemen: A Social History of the Upper Severn Navigation 1660-1900*, (Chichester: Phillimore, 2005).
- Turner, E.R. 'The Keelmen of Newcastle', *American Historical Review*, 21, 3 (1916), 542-45.
- Vaisey, David. *The Diary of Thomas Turner*, (Oxford: Oxford University Press, 1985).
- Vial, H.R. 'Tyne Keels', *Mariner's Mirror*, 28 (1942), 160-62.
- Vickery, A. *The Gentleman's Daughter, Women's Lives in Georgian England*, (New Haven: Yale University Press, 1998).
- Ville S.P., 'Size and Profitability of English Colliers in the Eighteenth Century, A Re-appraisal', *Business History Review*, 58, 1 (1984), 103-20.
- Ville, S.P. *English Shipowning During the Industrial Revolution; Michael Henly & Son, London Shipowners 1770-1830*, (Manchester: Manchester University Press, 1987).
- Ville, S.P. 'Patterns of Shipping Investment in the Port of Newcastle Upon Tyne, 1750-1850', *Archaeologia Aeliana* 5th Ser. 25 (1989), 203-21.
- Ville, Simon.P. 'Shipping in the Port of Newcastle 1780-1800', *Journal of Transport History*, 9 (1988), 60-77.
- Wade, J.F. 'The Overseas Trade of Newcastle Upon Tyne in the Late Middle Ages', *Archaeologia Aeliana*, 5th Series, 30 (1994) 31-48.
- Weatherill, L. *Consumer Behaviour and Material Culture in Britain, 1660-1760*, 2nd. Edition, (London, New York: Routledge, 1996).
- Welford, R. *History of Newcastle and Gateshead*. 5 vols. Vol. II, III, IV. (London: Walter Scott, 1885.)

- Welford, R. 'Newcastle Householders in 1665; Assessment of Hearth or Chimney Tax', *Archaeologia Aeliana*, 3rd Series, 7 (1911), 49-76.
- Whiting, W.R.G. 'The Newcastle Galley', *Archaeologia Aeliana*, 4th Series, 13 (1936), 95-116.
- Willan, T.S. *The English Coasting Trade, 1600-1750*, (Manchester: Manchester University Press, 1938).
- Willan, T.S. *The Inland Trade*, (Manchester: Manchester University Press, 1976).
- Willan, T.S. *River Navigation in England 1600-1750*, (London: Frank Cass & Co. Ltd., 1964).
- Willan, T.S. *Studies in Elizabethan Foreign Trade*, (Manchester: Manchester University Press, 1959).
- Wood, H.M. 'Wills and Inventories from the Registry at Durham, Part 4', *Surtees Society*, 142 (1929).
- Woodward, Donald. 'Sources for Maritime History 3: The Port Books of England and Wales', *Maritime History*, 3, 2 (1973), 147-65.
- Wrightson, Keith. *Earthly Necessities: Economic Lives in Early Modern Britain*, (London: Yale University Press, 2000).
- Wrightson, Keith. *English Society 1580-1680*, (London: Hutchinson, 1982).
- Wrightson, Keith, David Levine. 'Death in Whickham', *Famine disease and social order in early modern society*, eds. John Walter and Roger Schofield, (Cambridge: Cambridge University Press, 1989) 129-65.
- Wrightson, Keith, and David Levine. *Poverty and Piety in an English Village, Terling, 1525-1700*, (Oxford: Clarendon Press, 1995).
- Wrigley, E.A. 'British Population During the Long Eighteenth Century', *The Cambridge Economic History of Britain.*, eds. R. Floud and P. Johnson, (Cambridge: Cambridge University Press, 2004), 57-95.
- Wrigley, E.A. 'Country and Town: The Primary, Secondary and Tertiary Peopling of England in the Early Modern Period', *The Peopling of Britain, the Shaping of a Human Landscape*, eds. P. Slack and R. Ward (Oxford: Oxford University Press, 2002), 216-54.
- Wrigley, E.A. 'English County Populations in the Later Eighteenth Century', *Economic History Review* 60, 1 (2007), 35-69.
- Wrigley, E.A. 'Rickman Revisited: The Population Growth Rates of English Counties in the Early Modern Period', *Economic History Review*, 62, 3 (2009), 711-35.

Wrigley, E.A. 'A Simple Model of London's Importance in Changing English Society and Economy, 1650-1750', *Past & Present*, 37 (1967), 44-70.

Wrigley, E.A. 'Urban Growth and Agricultural Change: England and the Continent in the Early Modern Period', *Journal of Interdisciplinary History*, 15, 4 (1985), 683-728.

Wrigley, E.A., Davies, R.S., Oeppen, J.E., Schofield, R.S. *English Population History from Family Reconstitution, 1580-1837*, (Cambridge: Cambridge University Press, 1997).

Wrigley, E.A., Schofield, R.S. *The Population History of England 1541-1871, a Reconstruction*, (London: Edward Arnold, 1981).

Unpublished Theses.

Basten, S. 'Registration Practices in Anglican Parishes and Dissenting Groups in Northern England 1770-1840', Ph.D., Cambridge University, 2008.

Blomfield, David. 'Tradesmen of the Thames: Success and Failure among the Watermen and Lightermen Families of the Upper Tidal Thames 1750-1901', Ph.D., Kingston University, 2006.

D'Sena, Peter A.M. 'Perquisites and Pilfering in the London Docks, 1700-1795', M.Phil., Open University, 1986.

Elliott, N.R. 'Tyneside, a Study in the Development of an Industrial Seaport', Ph.D., Durham, 1955.

Moller, A.W.R. 'The History of British Coal Mining 1500-1750.', Ph.D., Oxford University, 1933.

Osler, A.G. 'Responding to Change: Shipping Deployments in the Baltic Trade of the Tyne 1860-1880', Ph.D., Hull, 2006.

Wood, Fiona Jean. "Inland Transport and Distribution in the Hinterland of Kings Lynn, 1760-1840.", Cambridge University, 1992.

Electronic Resources.

‘1831Census’,
http://www.staffs.ac.uk/schools/humanities_and_soc_sciences/census/cen1831.htm.

Baigent, Elizabeth. ‘Collins, Greenville (D. 1694)’, *Oxford Dictionary of National Biography* (2004), <http://www.oxforddnb.com/view/article/5938>.

Borthwick Institute for Archives. University of York, <http://york.ac.uk/inst/bihr/>.

‘Eighteenth Century Collections Online’, Gale Group, <http://find.galegroup.com>.

Essex, University of. ‘Histpop - the Online Historical Population Reports Website’,
<http://www.histpop.org/ohpr/servlet/>.

Hyde, Ralph. ‘Buck, Nathaniel (1724-1759)’, *Oxford Dictionary of National Biography* (2004), <http://www.oxforddnb.com/view/article/67827>.

Hyde, Ralph. "Buck, Samuel (1696-1779)." *Oxford Dictionary of National Biography* (2004), <http://www.oxforddnb.com/view/article/3850>.

‘The National Archives’, <http://nationalarchives.gov.uk>.

Officer, Lawrence H. ‘Purchasing Power of the British Pound from 1264 to the Present’, *Measuring Worth* (2009), <http://www.measuringworth.com/ppoweruk/>

‘Ralph Jackson Diaries’, Historic Cleveland,
<http://historic-cleveland.co.uk/topics/topics.php?id=5&mode=main>

Reinhartz, Dennis. ‘Moll, Herman (1654?-1732)’, *Oxford Dictionary of National Biography* (2004), <http://www.oxforddnb.com/view/article/18912>.

Waller, Philip. ‘Ward-Jackson, Ralph (1806-1880)’, *Oxford Dictionary of National Biography* (2004), <http://www.oxforddnb.com/view/article/37591>.

Michael Duffy, ‘Duckett, Sir George, first baronet (1725-1822)’, *Oxford Dictionary of National Biography*, (Oxford: Oxford University Press, 2004, online edn. Jan 2008).
<http://www.oxforddnb.com/view/article/14524>, accessed 26th Feb. 2011.

Bennett Mitchell Zon, ‘Avison, Charles (bap1710-1770)’, *Oxford Dictionary of National Biography*, (Oxford: Oxford University Press, 2004),
<http://www.oxforddnb.com/view/article/925>, accessed 28 Feb. 2011.